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# PENCIL POINTS

A JOURNAL FOR
THE DRAFTING ROOM

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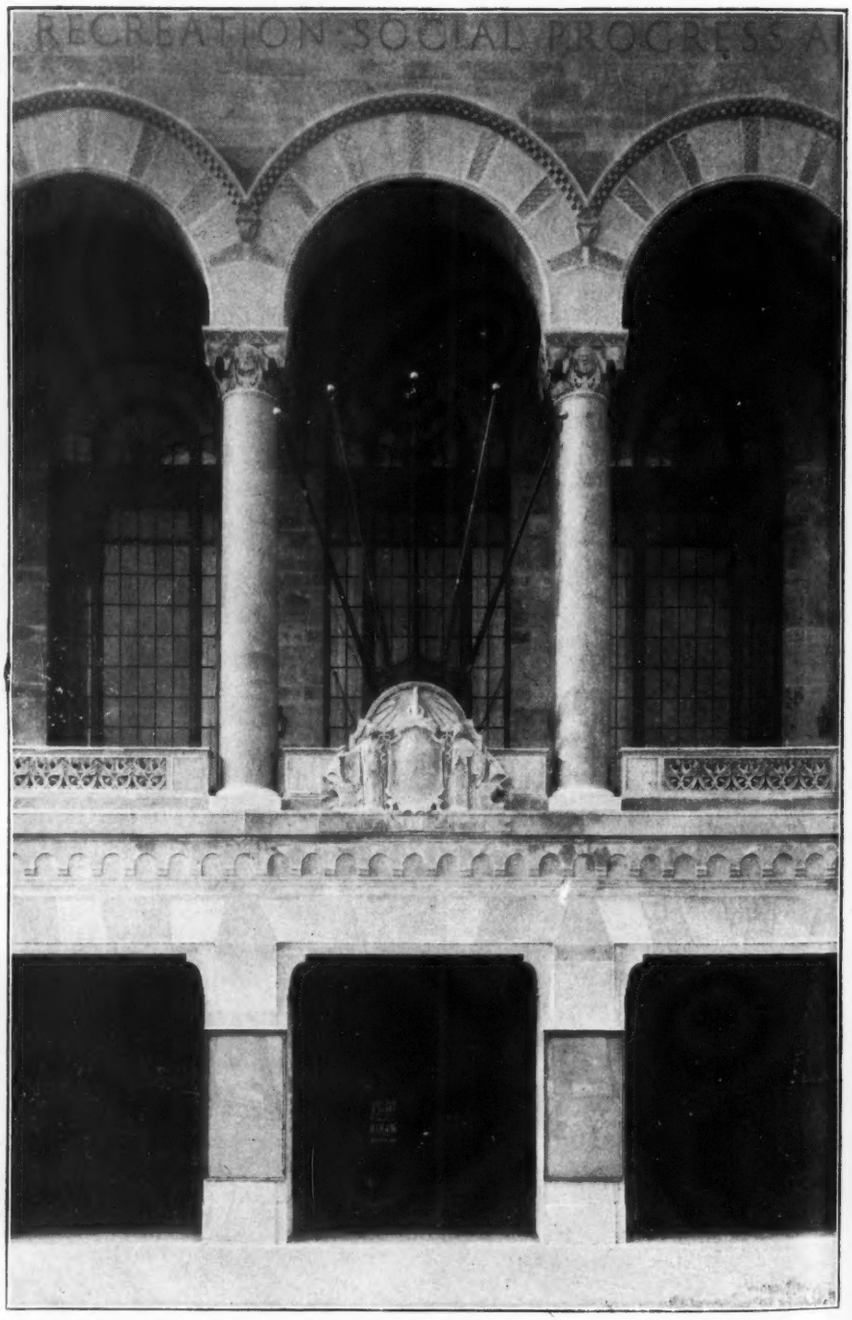


*Detail, Atlantic City Convention Hall, Atlantic City, N. J. Lockwood, Greene & Co., Architects. M. B. Markland Co., Builders. Built of Indiana Limestone.*

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# PENCIL POINTS

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## *PUBLICITY AGAIN*

THE ILLINOIS SOCIETY of Architects (Hats off to it for its progressiveness!) has sent a message to its members as follows:

"Dear Member: You will remember what Mark Twain said about the weather—everyone forever grumbling about it, but he'd never seen anyone *do* anything about it. And, for years, we've been complaining about the ignorance of the public—how little they understand about the need and the value of architectural service, etc., etc. But no one, up to the present, has done very much about it.

"Now the Illinois Society of Architects has launched a carefully planned, state-wide program of education.

"The enclosed folder, *'Just What Does an Architect Do for his Client?'*, is the first of a series of informative pieces to be mailed to a selected list of 10,000 throughout the State of Illinois. [See pages 866 and 867 for reproduction of text of folder.]

"Each of these folders will set forth the major functions of an architect or tell of the specialized training, natural ability, integrity, and other qualities of a recognized architect. They will stress the fact that an architect is entitled to a fee commensurate with the value of the service he renders. . . . "

Here is an example for other architectural societies to follow. Some have already taken steps in the same direction, notably our friends in California. Others have plans under way. As Lancelot Sukert, President of the Michigan Society of Architects, puts it in a recent weekly bulletin to his members, "The profession is in a most critical situation, perhaps the most critical in its history. The great majority of architects in this State are suffering from lack of work and are barely able to struggle along. . . . We are up against a big fight. This fight belongs to all architects."

He is right. Every architect, no matter how prosperous his practice may be, and every draftsman, no matter how secure his job, has something to gain by keeping the profession in general prosperous. Every architect can do his bit by seizing every opportunity to impress upon his community the value of architectural services. Every draftsman can help by adding his voice wherever it may be heard in lay society. If the men of our profession are not willing to do this they are going to see their field more and more encroached upon by other factors in the building industry—engineering corporations with "architectural departments," building contractors with salaried designers, and real estate organizations offering architectural services gratis. These elements are all active—it is time for the architects to be active and we are glad to see the Illinois Society taking up the cudgels for the profession in such an energetic way.

We understand that the whole subject of advertising architecture is to be freely discussed at the next A.I.A. Convention. May the discussion be stimulating and fruitful!

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"L'ARBRE—BESANÇON"—ETCHING BY DECARIS—SIZE OF ORIGINAL 17½" X 26¼"

# PENCIL POINTS

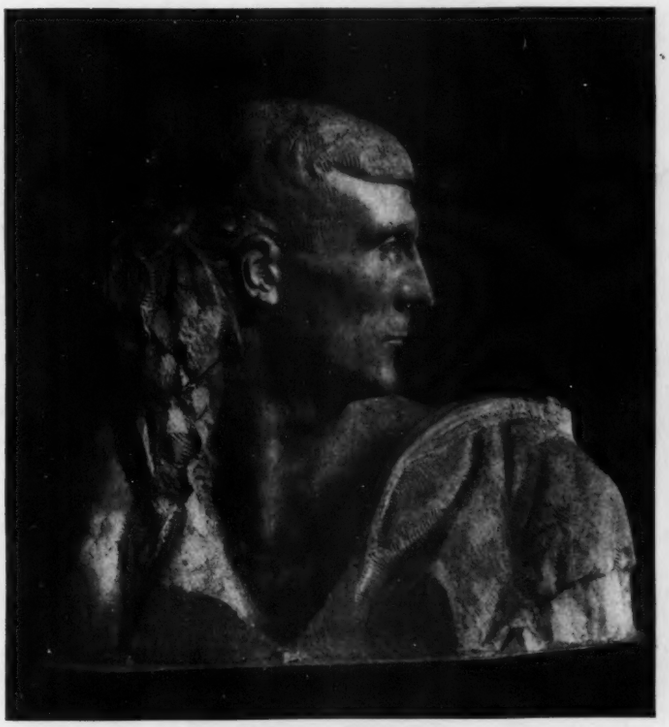
Volume X December, 1929 Number 12

## DECARIS, MASTER OF BLACK AND WHITE

### NOTES ON A VERSATILE "PRIX DE ROME"

*By Samuel Chamberlain*

THE ACCEPTED PARADISE for blossoming architects, the turbulent quarter of *St. Germain-des-Prés*, is a wan and unfamiliar spot during the month of August. Most reminiscent habitués of the place would be strongly bitten by the *cafard* to see the terrace of the *Deux Magots* taken over by interior decorators, school-teachers from Humptulips Junction and nifty collegians who scatter wise-cracks about Joe Collitch and drink that lizard's blood known as *Pernod*. Beaux Arts students' cubicles in the steep-staired hotels of the region are now filled with Baedeker toters, with bleary-eyed whoopee makers and punctual professors on sabbatical leave. The excitement of the *Prix de Rome* has died out. The niggers have gone to the country, and the logists have caught up on their sleep. The old fellowship holders from America have mostly gone home (broke), and the new ones are not yet due to make Lipp's *choucroute garnie* a part of their daily existence. Nobody smears plans on the marble-topped tables of the cafés. Nobody lugs drawing boards. Nobody under sixty attempts a Horace Greeley set of chin whiskers. Nobody gets in jail and finds himself the next morning minus his necktie, belt, and shoestrings, an expedient among French gaolers which is supposed to prevent attempts at suicide. Most of the art stores draw their steel blinds for the month. The grilled gates of the *Ecole des Beaux Arts* become gently cobwebbed. Art, and all of its devotees, have moved to the country.



PORTRAIT BUST OF DECARIS

They've all gone: the society portraitists to Deauville where they will paint the wives of mustard kings, the landscapists to the banks of the lower Seine, to the Breton Coast, to Concarneau and Moret and Barbizon, the etchers to the cathedral towns, and the exotic daubers of Montparnasse to the Riviera, where they can pose their models unshivering under the palms. Only the wart-faced freaks of the *Dôme* and the *Coupole* remain to shake their dusty curls to the amazement of the thrill-seekers from Ashtabula. Decidedly the real artists of Paris have disappeared.

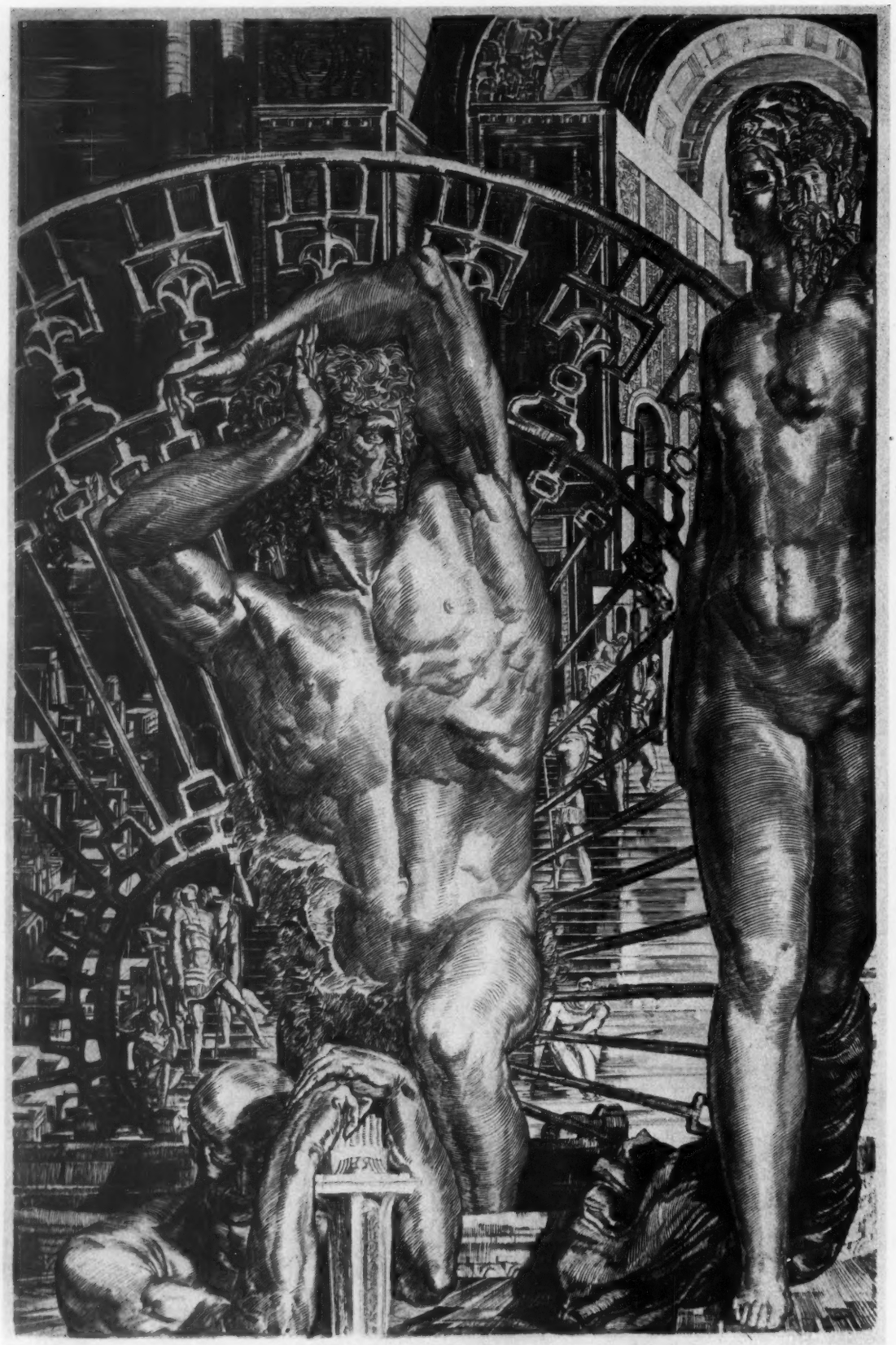
All of them, that is, except one. Wander down the *rue de Seine*, past many a boarded-up shrine of writhing *art moderne*, climb up six breathless flights of stairs at Number 41, and you come to the studio of one who has not deserted Paris; who, on the contrary, is working like a trooper. He is the subject of this wandering theme, Decaris, the only *Prix de Rome* who can walk a hundred yards on his hands.

The sun pours into the high-ceilinged room. The air is damp and sweltering. The walls are papered and repapered with sketches, with trial proofs, with Gallic caricatures. There is a stool or two, a broad table piled high with books and sketches, and a cabinet choked with odds and ends. A dozen bulging portfolios are stacked under the eaves. In a far corner, almost perpendicular to the floor, is a huge drawing board, which twirls alarmingly on a pivot. Behind it a keen-eyed little man is gouging rapid furrows out of a copper plate. He is a mild, studious chap, possessed of a profile strikingly like that of a Roman bust in the Naples museum. He wears a thin ravelled sweater, a pair of battered sailor's trousers, some

"CHURCH OF NOTRE DAME AT BESANCON"—WASH DRAWING BY DECARIS

"OLD HOUSE AT LUXEUIL"—FROM A WASH DRAWING BY DECARIS

UNIV. OF MICH.



"ST. JEAN BAPTISTE"—ENGRAVING BY DECARIS—ORIGINAL ABOUT 26 INCHES HIGH

"LES MINEURS"—ENGRAVED TRIPTYCH BY DECARIS—ORIGINAL MEASURES ABOUT FOUR FEET LONG

sandals, nothing more. He has enormous shoulders, and a chest like a featherweight champion. His hair is neatly cropped over his forehead in the most perfect of bangs.

From my description, Decaris may sound like either an eccentric or a poseur. In reality, he is the most unaffected and sincere of mortals. He merely believes that conventional masculine garb is both uncomfortable and ridiculous. He lives up to his convictions, dressing as he pleases. There is a charm about this attic studio which makes regular callers of the privileged few who can *tutoyer* Monsieur Decaris. Part of it is due to the smiling little Madame Decaris, auburn-haired and vivacious, who is there much of the day. She busies herself with Spanish verbs and English syntaxes, paints landscapes occasionally, reels off a Red Nichols opus now and then on the portable music box, brews China tea at five o'clock, and otherwise lends a light touch to the prodigious workshop of the engraver. Apératif time finds the place comfortably filled with casual visitors who prefer five puffing flights and a cup of tea to the more usual seductions of the *Deux Magots*. Incidentally, you will never find Decaris on the terrace of this famed café. He has a grudge against the place, dating back to the day when the portly *gérant* with the curly red moustache asked him to leave that dignified thirst emporium. Decaris responded with a startled "pourquoi?"

"Because, Monsieur," replied the *gérant*, "you are wearing sandals without socks, and we require all of our clients to be correctly dressed."

Of recent years the fame of this twenty-eight-year-old etcher has grown to imposing proportions. The critics and the public have propped him on a pedestal. In the field of noteworthy French etchers which has shrunk to a few names such as Brouet, Bésnard, and Forain, he is looked upon as a welcome aspirant.

So remarkable is his mastery of many black and white media, so brilliant are his prints and wash drawings of architectural subjects, that I have a pardonable confidence that a description of his methods will interest the readers of these pages.

Decaris' approach is direct, unhesitating. Once the vision of what he desires is fully imprinted on his mind, he is not hindered by details, by technical difficulties, gaping crowds, sweltering studios. The accomplishments of pushing delicate ravines through a copper plate with a burin, of biting impossibly rich blacks with nitric acid, of spreading sepia washes which dry with miraculous effect, all of these he takes for granted and promptly forgets.

On a sketching tour, he saunters up to anything that happens to be imposing in scale and unique in composition, gets close enough to it to create an overwhelming perspective, squints a bit and then unpacks his paraphernalia. This consists of a folding easel, a vast portfolio, and a water color box in which he has stored enough ground Chinese ink to put a first coat on a box car. Up goes a sheet of Italian paper on the outside of the portfolio, and out comes a magnificent sable brush. Nine chances out of ten, an inquisitive crowd has already gathered behind him. Before Monsieur Machin, the town idler who is gazing over the artist's shoulder, has time to light a contemplative cigarette, Decaris has pointed the brush between his lips, and has blocked out the subject, with infinite delicacy, in slender blackish lines. Before Monsieur Machin can call his friend, Monsieur Chose, the café proprietor across the street, the finely tipped brush has spread into a band of very wet greys of a dozen widths and tones, and has galloped over the Fabriano with astonishing dexterity. A cloud dashes on the paper in a twinkling. A tower is given a shimmering rotundity with three or four quick vertical strokes. A passing mongrel, scratching his ear, is jotted in the foreground with almost photographic rapidity. An inquisitive housewife pauses in front of the artist to stare for an instant. Her ample lines, her inquiring pose and her market basket are all deftly sketched in the *premier plan* while the impromptu gallery snickers with delight.

And, during the time that Monsieur Machin is pointing out a chimney pot that the artist overlooked and assuring Monsieur Chose that *"C'est épatant, quand même,"* Decaris has already folded his paint box and begun to pack up. The finished drawing may have taken him an hour, at most an hour and a half. He gazes ruefully at the pavement about him, where he has spat considerable Chinese ink, and is

"DEVASTATION"—ENGRAVING BY DECARIS—ORIGINAL ABOUT 12 INCHES HIGH
ILLUSTRATION FOR RONSARD'S "DISCOURS DES MISÈRES DE CE TEMPS"

"THE GLUTTONOUS CHURCHMEN"—ENGRAVING BY DECARIS—SIZE OF ORIGINAL 9¼" X 12¼"
ILLUSTRATION FOR RONSARD'S "DISCOURS DES MISÈRES DE CE TEMPS"

"THE GRANITE CITADEL OF ST. MALO"

"VILLAGE BALL—COMBOURG"

ORIGINAL ETCHING ILLUSTRATIONS BY DECARIS FOR CHATEAUBRIAND'S "COMBOURG"

off again, eye alert for another dramatic close-up, another elephantine mass of masonry. Four such wash drawings are a fair daily average for Decaris. One can imagine the rich harvest he brings back from a sketching trip. The best ones are exhibited annually at the fashionable Charpentier Galleries in Paris, and Decaris has to put on a white shirt and listen to the awed platitudes of the *amateurs d'art* and the bravos of the critics.

His method of engraving is equally free of fetters. He searches long and laboriously on thin sketch paper until he obtains the action and the composition he desires. Then, with clothespins, he hangs up a few sketches on a line in his studio, facing them away from him. These dangle between his work board and the light, and thus he has the image in reverse. He resorts to no painstaking transfers and tracings. A copper plate is fastened to his pivoted drawing board, a ruby-pointed needle scratches in a few constructions, and he begins to engrave directly from his suspended sketches. Out come a bewildering assortment of burins, some which make slender, wiry furrows, some which dig deep black gouges, some which can model with deft delicacy a hand or an intricate bit of pattern. These do not suppress his buoyancy any more than a sable brush. He slashes the little triangular and diamond-shaped wedges through the copper with entire ease. Golden-red shavings curl up from the burin, disengage themselves with a musical "ping!" and drop to the floor. Without exaggeration, he makes the shavings fly.

SOUVENIR MENU COVER BY DECARIS
*For the "Société de la Gravure Originale en Noir"*

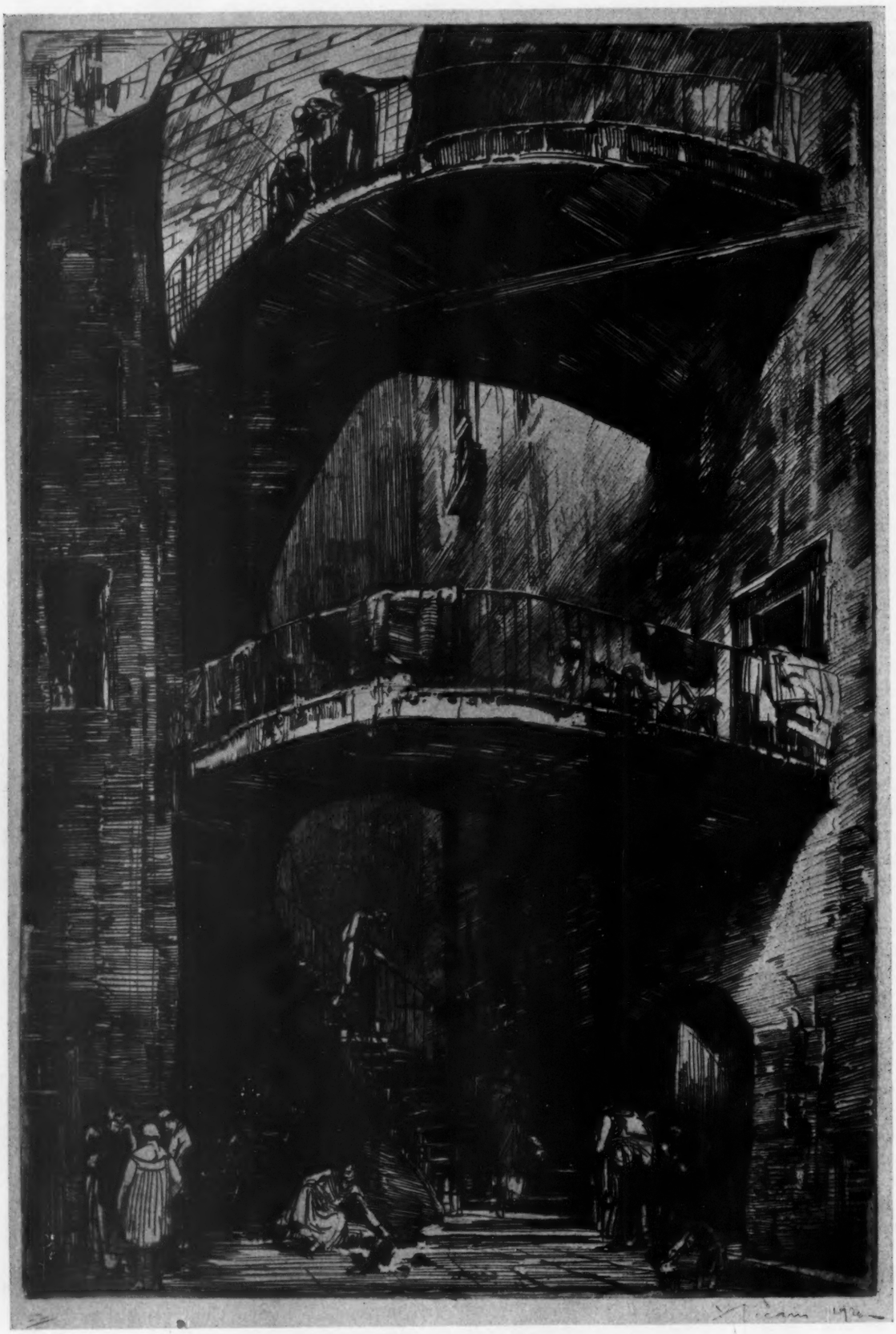
The engravings of Decaris are not batted off in a twinkling, however. He spends weeks, even months, on a large plate, such as the highly allegorical *St. Jean Baptiste*. (Incidentally, to check an invariable observation on this plate, may I state that Decaris *intended* Salomé to be equipped with thick ankles!) He makes from fifty to sixty preparatory sketches for a plate of this size and complexity.

His etchings are executed with even less restraint. He often works directly from his own large wash drawings, aided by a full length mirror which puts them in reverse. He dashes boldly into the waxed plate with all sorts of needles, dull, sharp, triangular, square. He bites the plate boldly, with an energetic acid. The result is a spontaneous freedom and a richness of tone rarely evident in a medium which is so often tight and restricted.

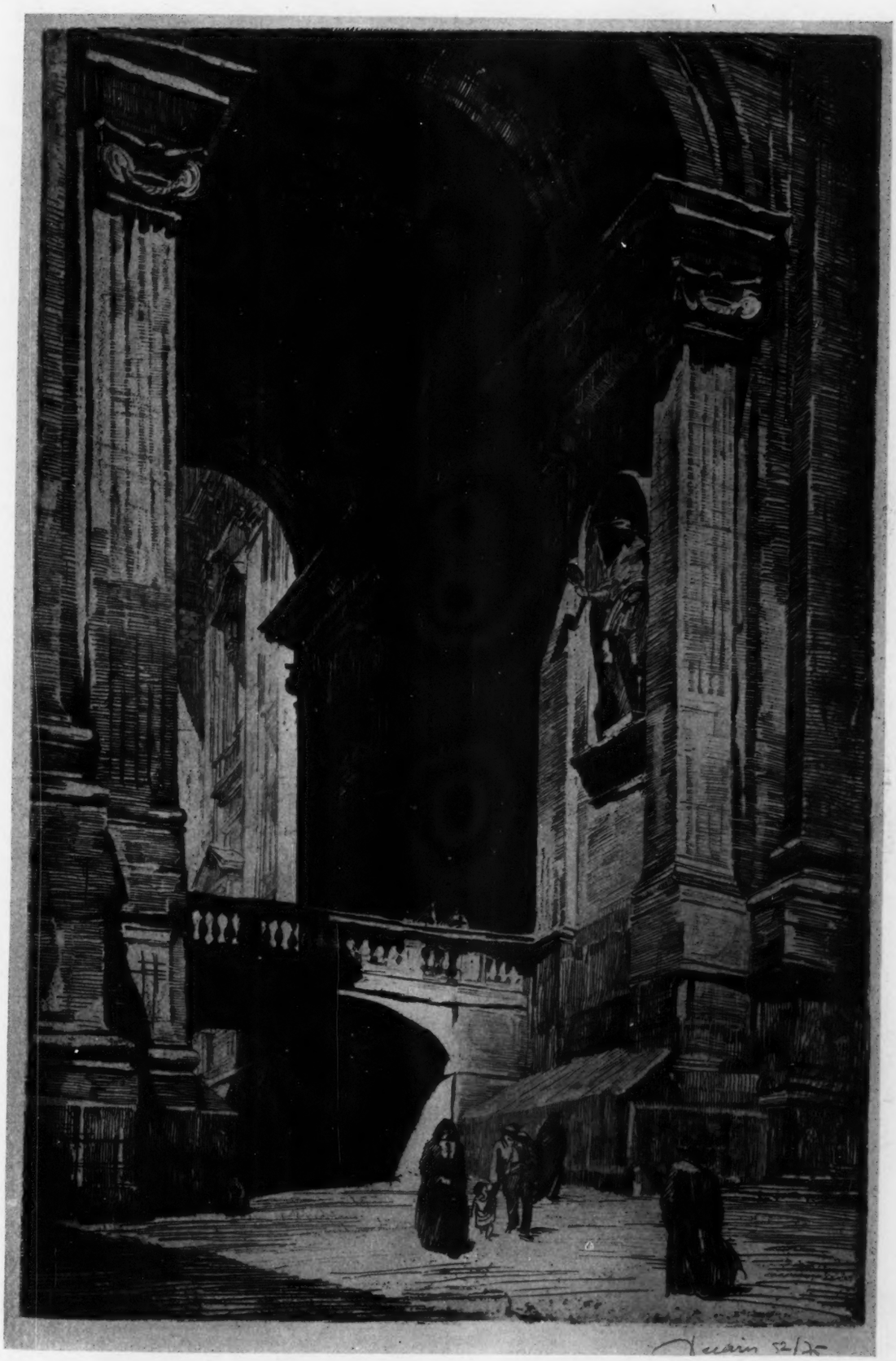
Decaris finds himself more at home before a sheet of copper of large dimensions. His vigorous talent seems to demand ample room in which to express itself and, as a result, all of his plates, save the book illustrations, measure at least two feet in their greater dimension. The fact that the large plate, even though it be by a Brangwyn, a Gobo or a Walcot, is frowned upon by collectors, that the fine old large scale proofs of Monk and Axel Haig bring only scornful glances in the auction room, this does not deter him. Mantegna and Piranesi furnish Decaris with all the precedence and reassurance he desires.

Surely his overpowering *Arc de Septime Sévére* would not gain by being etched on a smaller plate, nor would the brilliant detail of St. Peter's. To take a solitary tree or a lone Renaissance tower and make it the dominating motif of a plate twenty-six inches high is a task neither for the timid nor the unimaginative. And a genuine daring has to play a part in the conception of such a bold, dizzy and unprecedented plate as *L'Escalier-Besançon*.

Strangely enough, Decaris remains cold to the grandeur of Gothic. The wash drawing of *Mont St. Michel* is one of the few subjects of its kind that can be dug out of his portfolios. His other antipathies are conventional clothing, military service (no unique prejudice among the youths of France) and (this *is* a bit unusual for a Frenchman) any form of alcoholic refreshment. The latter prejudice dates from a dull evening in the Villa Médici, the home of the *Prix de Rome* winners. Decaris' comrades had dragged him yawning from his studio. Loud were his



"L'ESCALIER—BESANÇON"—ETCHING BY DECARIS—SIZE OF ORIGINAL 17½" X 26¼"



"ST. PIERRE DE ROME"—ETCHING BY DECARIS—SIZE OF ORIGINAL 12¾" X 19½"

"MONT ST. MICHEL"—WASH DRAWING BY DECARIS

"CHIESA DEI MIRACOLI—VENICE"—WASH DRAWING BY DECARIS

protests that he wanted to go back to his copper plates, but his friends would have none of it. Surreptitiously the glass of Fuigi water before him was replaced by a glass of brandy. Before he had detected this treachery, he had swallowed it at a gulp. After a quarter of an hour he became overcome with a gay but furious jag, acclaiming the coming of universal brotherhood, and smashing some of the rare old furniture of the *Académie*. Result: the irreproachable teetotaler Decaris, model and example of all virtues, barely escaped being expelled from the Villa Médici.

Decaris has devoted much of his time lately to etching illustrations for *de luxe* volumes. Many a French etcher has been doing the same thing, and for good reason. The truth is that the collector of prints is disappearing in France. Etchings individually have a slender market there. But the bibliophile, the chronic, well-heeled, inveterate collector of beautiful volumes, is still in evidence. In illustrating the French classics, old or modern, the French etcher still has a public.

Decaris' two most noteworthy volumes have dealt with rather lugubrious subject matter. One is entitled *Combourg*, and consists of the first three volumes of Chateaubriand's *Memoires*. It depicts, with a bleak touch, the sombre childhood of that melancholy adolescent. To illustrate this work, Decaris first made a trip to that dramatic part of Brittany which centers about St. Malo and Combourg, bringing back a wealth of wash drawings. Thirty of these he proceeded to interpret directly on the waxed plate.

The other volume is Ronsard's *Discours des Misères de ce Temps*, a baleful, tragic account of the Reformation. To both of these overcast themes Decaris has brought the full merciless intensity of his imagination and the almost magistral mastery of his medium. The result is a series of engraved illustrations which are unforgettable in themselves, but are even more piercing and memorable when studied with the tragic texts of the authors. Which fact alone identifies Decaris as a master illustrator, his other merits left aside.

To demonstrate that Decaris is far from humorless, however, I ask you to look at the etched menu cover which he made for the annual dinner of the august *Société de la Gravure Originale en Noir*, of which he is the youngest member. Despite the Lucullan feast which awaited the diners, the menu cover proved to be the unquestioned *pièce de résistance* of the evening. And there is more than a touch of whimsy to the frolicking peasants in the *Village Ball* plate. These are the exceptions, for Decaris' mood in etching is predominately sombre.

His brief biography sounds like a succession of triumphs and misfortunes. Born on the outskirts of Rouen in 1901, he began to draw elephants and pin wheels and posies at the age of four. At fourteen, he could endure the dull routine of grade school classicism no longer. He begged his parents to enter him at the *Ecole des Beaux Arts*. They hesitatingly consented, and the bare-legged youngster was led through the solemn corridors of the *Ecole*. Alas, cruel deception! The registrar informed Monsieur Decaris *père* that all candidates for admission must be at least fifteen. Dismayed but undaunted, the boy enrolled in the more hospitable *Ecole Estienne*, and for four years worked ceaselessly, always the first in his class, carrying off all of the major prizes, covering at a gallop all of the hard, ungrateful stretches which beset a beginner. At eighteen, he took the entrance examination to the *Ecole des Beaux Arts* and was accepted. He entered the atelier of Monsieur Carmon, making himself as obscure as possible. Six months later, to the astonishment of everyone, he had won the *Premier Grand Prix de Rome*, the youngest student ever to win such an exalted honor. The subject of the competition was *Eve Avant le Péché*, and Decaris had endowed the stodgy subject with a glamor and an emotion foreign indeed to mere school work. He had won by a good five lengths.

A week after the competition Decaris, in his habitual modest apparel, was roaming about the streets of Paris with some of his fellow students. At the end of the crowded *Faubourg Montmartre* he was overcome by a sudden impulse to cross the *Carrefour de Châteaudun* on his hands. During the execution of this admirable bit of gymnastics, Fate decreed that he should bump into one of his friends who was accompanied by his ultra-respectable mother and father. There followed a moment of embarrassment from which the friend recovered first.

"Allow me to present this year's *Prix de Rome*," said he to the astonished parents.

Rome dazed Decaris at first. His conpanions at the Villa Médici, among them the present Professor Carlu of Technology and Professor Haffner of Harvard, made him feel at home, but he was still overwhelmed. He decided upon a trip to Paestum, and there undertook his first wash drawings of the Grecian temples. Unfortunately his imprudent youth had overlooked the malarial threat of the flat swamps of Paestum. For a year the doctors fought with him against the fever. Cured finally, he found himself confronted with the disenchanting duty of passing two years in military service. Thus was his dream of Rome delayed.

At last he returned to finish his fellowship. Conquered by the magnificence of Rome, he worked ceaselessly, sending back many an engraved *envoi* to be hung in the vast, gloomy exhibition hall of the *Ecole*, many a sheaf of wash drawings to excite comment at the Charpentier Galleries. Returning to Paris, he found that the critics were talking about him, that his name had a magic significance among the students of the *Ecole*. This spurred him on to produce a series of plates of Belgian subjects, including a masterly triptych, *Les Mineurs*. This he submitted to the Paris Salon. The judges took one look at it and gave it a *Médaille d'Argent*, an unprecedented award for anyone exhibiting in the Salon for the first time. Since then his renown has grown steadily. Book publishers have come to him with enough proposals to keep him busy for a decade, but he remains unmoved by their

flowery promises. His present energy and his future hopes are not guided by material success but by another overwhelming factor, which is his virile and unflinching artistic conscience. Avowedly he has hitched his wagon to a star. Those of us who admire the present strength of Decaris feel justified in the lofty prediction that, in the world of etching and engraving, his will be one of the few significant names of the next decade.

At present Decaris is in Spain, working up the illustrations for a volume by Charles Maurras. His cherished ambition, however, is to visit America. Particularly he wants to make etchings and wash drawings of our canyon streets and metropolitan monoliths. Do not be surprised therefore if some noontime you see the traffic on lower Broadway blocked by an intent young man with bangs, who is slapping in vast and uncanny sepia washes on a double-elephant sheet of paper. I advise you to join the throng and gape over his shoulder.

"SCUOLA SAN-GIORGIO, VENICE"—WASH DRAWING BY DECARIS

# A BUILDING ON THE BOARD

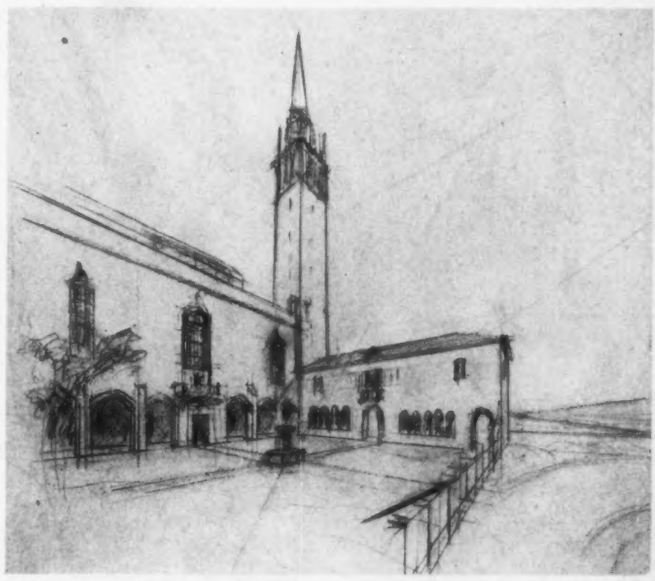
## A SELECTED GROUP OF DRAWINGS SHOWING THE PROGRESS FROM THE SKETCH TO THE FINISHED WORKING DRAWINGS OF THE GROSSE POINTE YACHT CLUB ON LAKE ST. CLAIR

*Henry and Richmond, Architects*

EDITOR'S NOTE:—*The drawings shown on this and the following pages show something of the development of the design of a large yacht club. The text, written by Ralph Coolidge Henry, of the firm responsible for the design, emphasizes the important features of the problem and its solution.*

ALMOST MIDWAY between the westerly end of Lake Erie and the southerly end of Lake Huron lies Lake St. Clair, a beautiful sheet of water washing both the American and Canadian shores. It is in reality a very large fresh-water lake, among the largest in America, of such length and breadth that its opposite shores vanish beneath the horizon to any observer at the water's edge, although, by comparison with its great neighbors, Lakes Superior, Michigan, Huron, Erie, and Ontario, it is small indeed. Lake St. Clair is, nevertheless, the Mecca of a large and enthusiastic colony of amateur yachtsmen, and its broad surface provides almost ideal conditions for the lovers of all forms of water sports in summer and ice sports in winter.

Its broad outlet, the Detroit River, separates the thriving city of Detroit from the city of Windsor, in Canada, and carries an enormous volume of Great Lakes shipping to and from this mid-western metropolis.



ROUGH PERSPECTIVE STUDY

The most desirable near suburbs of Detroit lie along the western shores of Lake St. Clair and here are many of the country homes of Detroit's prominent men. Some of these homes are delightful, set in grounds of enormous extent and great charm.

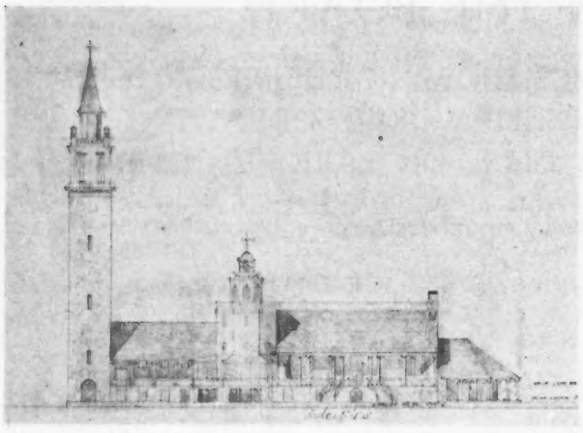
To the architectural imagination the natural setting and the immediate program of the yacht club problem were equally captivating. The outstanding characteristics of this region of the lake country are its apparently limitless extent of water surface, almost equally level and limitless terrain and a rich vegetation. It was at once apparent that the program demanded the informal and the picturesque in plan and that the composition required, for piquancy and flavor, some element of contrasting verticality in a region where all else is horizontal. The convincing first thought of an element to fulfill this function was of the campanile; why not one of slender proportions and marked height, with a large bell in its lantern to strike the hours and half-hours of the dial-less ship's clock; why not one whose height would be doubled by its reflection in the mirror of the calm water surface; why not one with a modern aviation beacon at its apex?

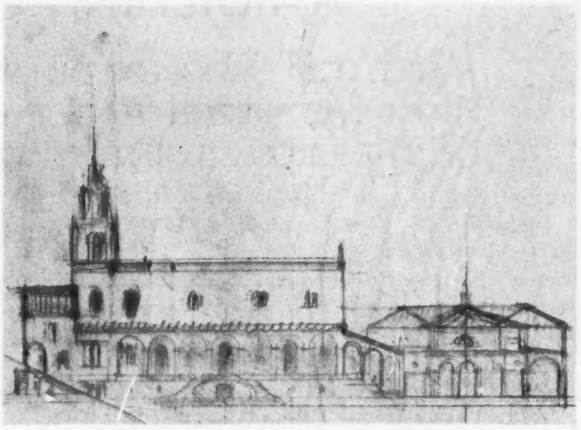
The Grosse Pointe Yacht Club property is a long thin slice of land, created by dredging and fill from the lake bottom, confined by the usual sheet piling and rip-rap, projecting easterly into the lake nearly a quarter of a mile and culminating in a peninsular site of several acres. This site is adjacent to large yacht harbors to the east and north created by confining the lake waters among surrounding pile-cappings of concrete, forming large quiet water areas of sufficient extent to permit the mooring of hundreds of yachts, large and small.

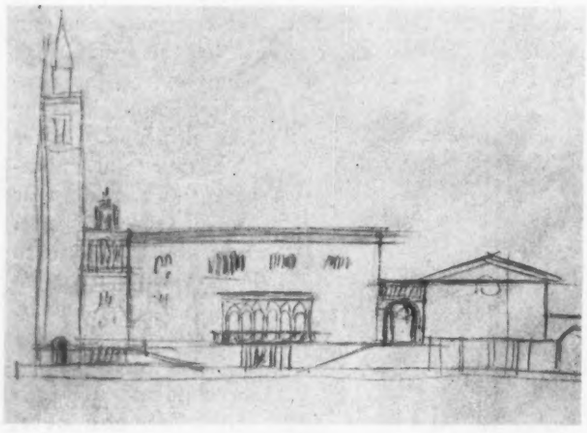
The footings of the yacht club building itself are likewise concrete cappings of white oak piles. The superstructure is of terra cotta hollow tile to which, on the exterior, is applied a roughly-trowelled, warm-colored oriental stucco. The architectural trim is of stone. The roof is of variegated red-brown clay tile.

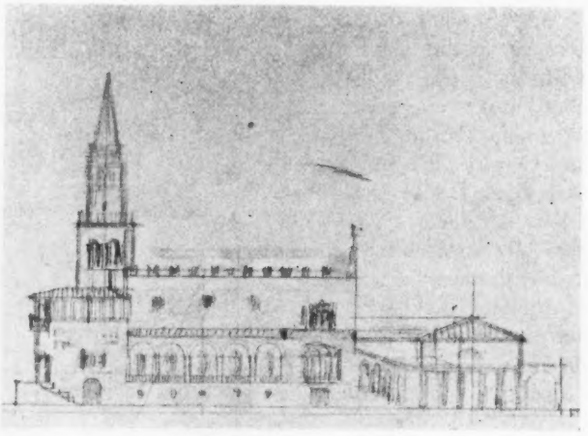
The attempt is here made to give the entire building a lighter and gayer atmosphere than typifies the more solidly mysterious prototypes of Venetian Romanesque and Gothic.

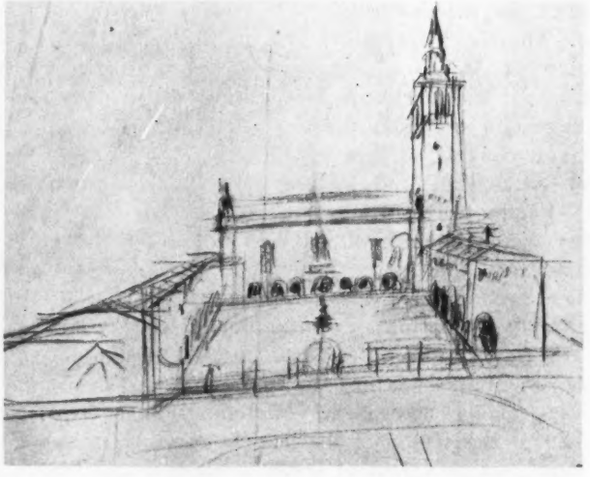
The main entrance to the building is through the west end of the northerly wing, approached by broad avenues next to ample spaces for the parking of cars in alcoves, so planted that one does not get the impression of vast areas of gravel, but rather the impression of a series of compartments that conceal the parked cars by promontories of trees and shrubs. This main entrance foyer is a broad straight thoroughfare looking easterly through a large picture window com-





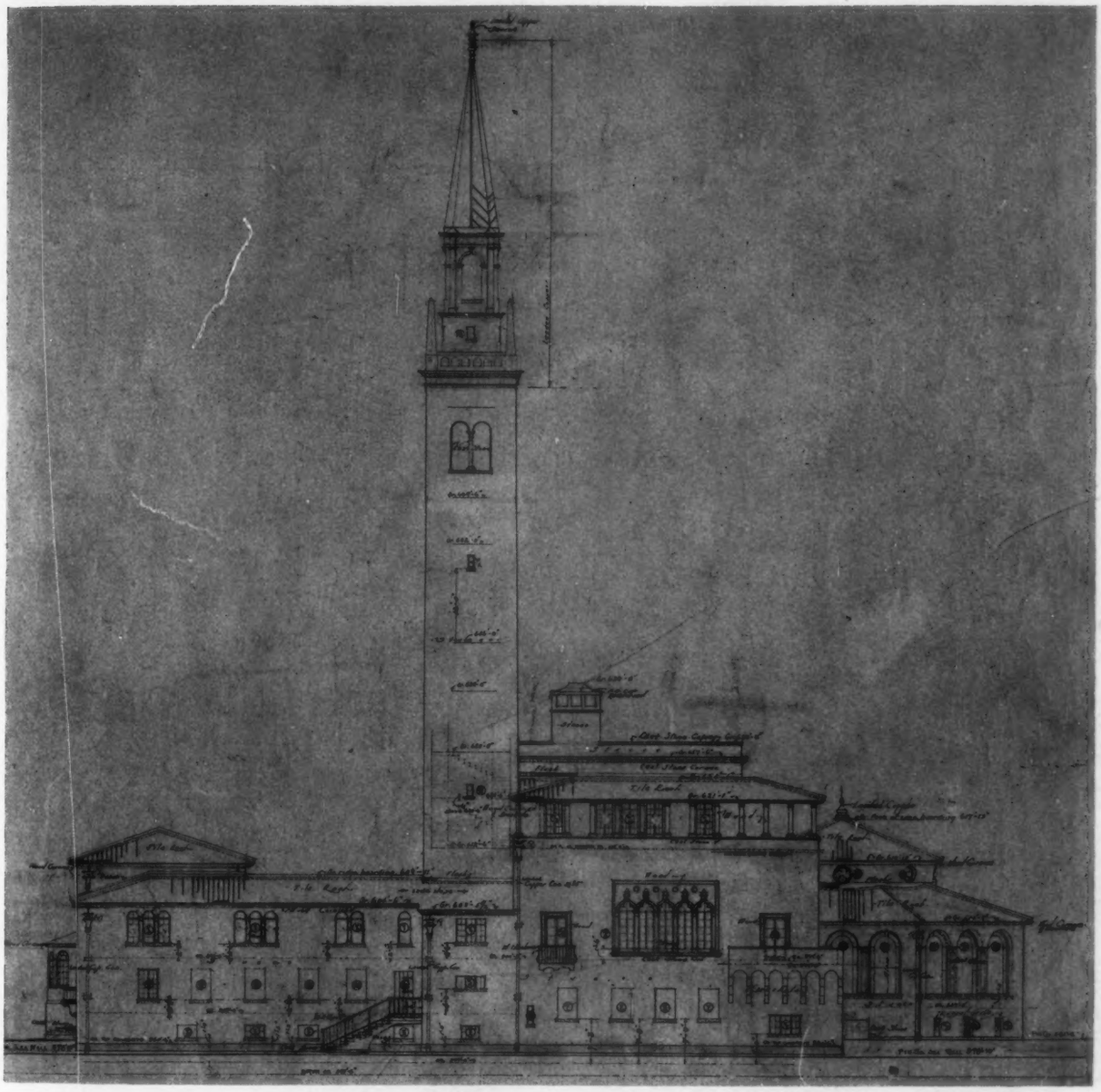






A GROUP OF EARLY STUDIES FOR THE GROSSE POINTE YACHT CLUB

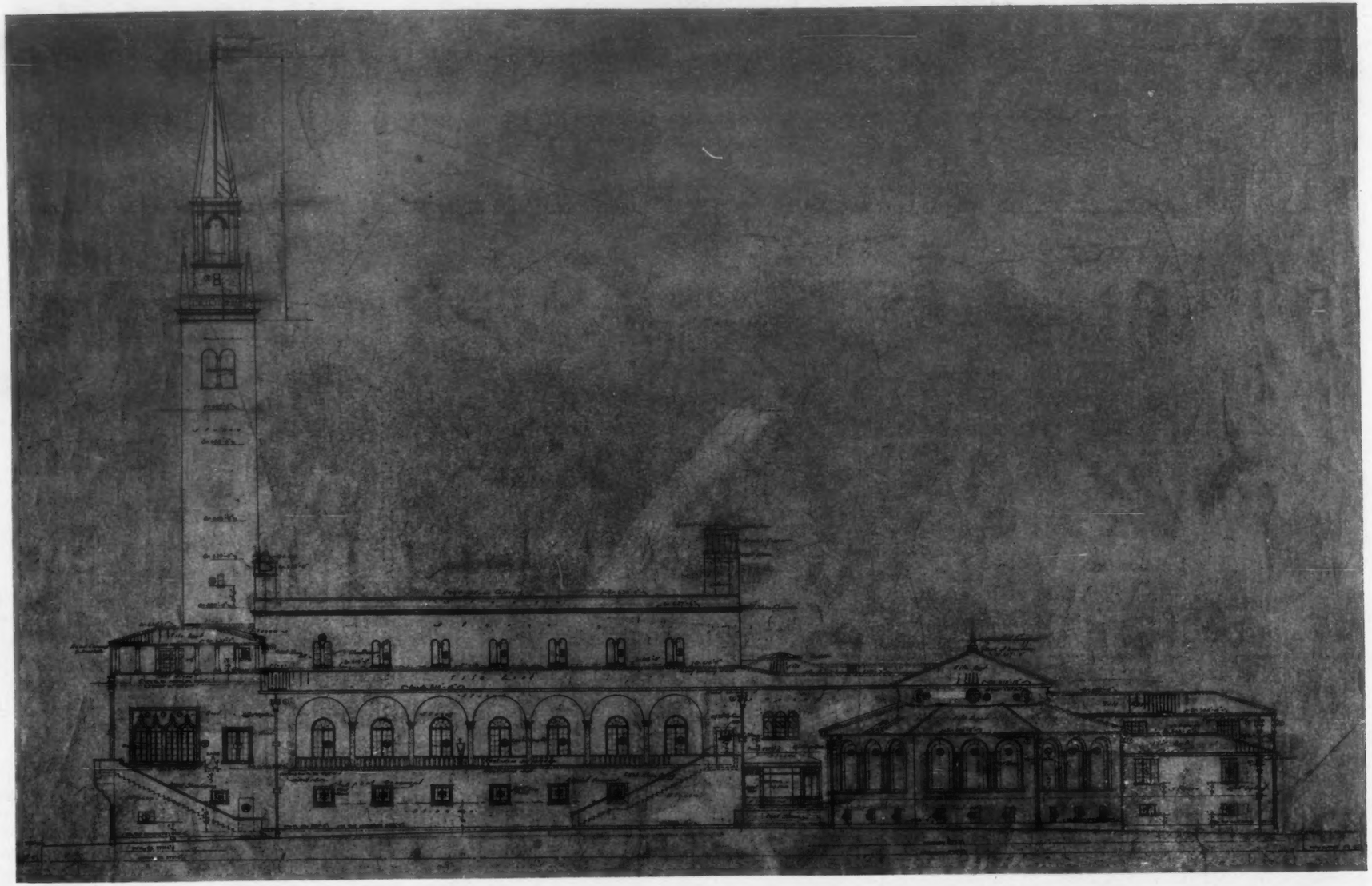
HENRY AND RICHMOND, ARCHITECTS



SOUTH ELEVATION—GROSSE POINTE YACHT CLUB, GROSSE POINTE SHORES, MICHIGAN

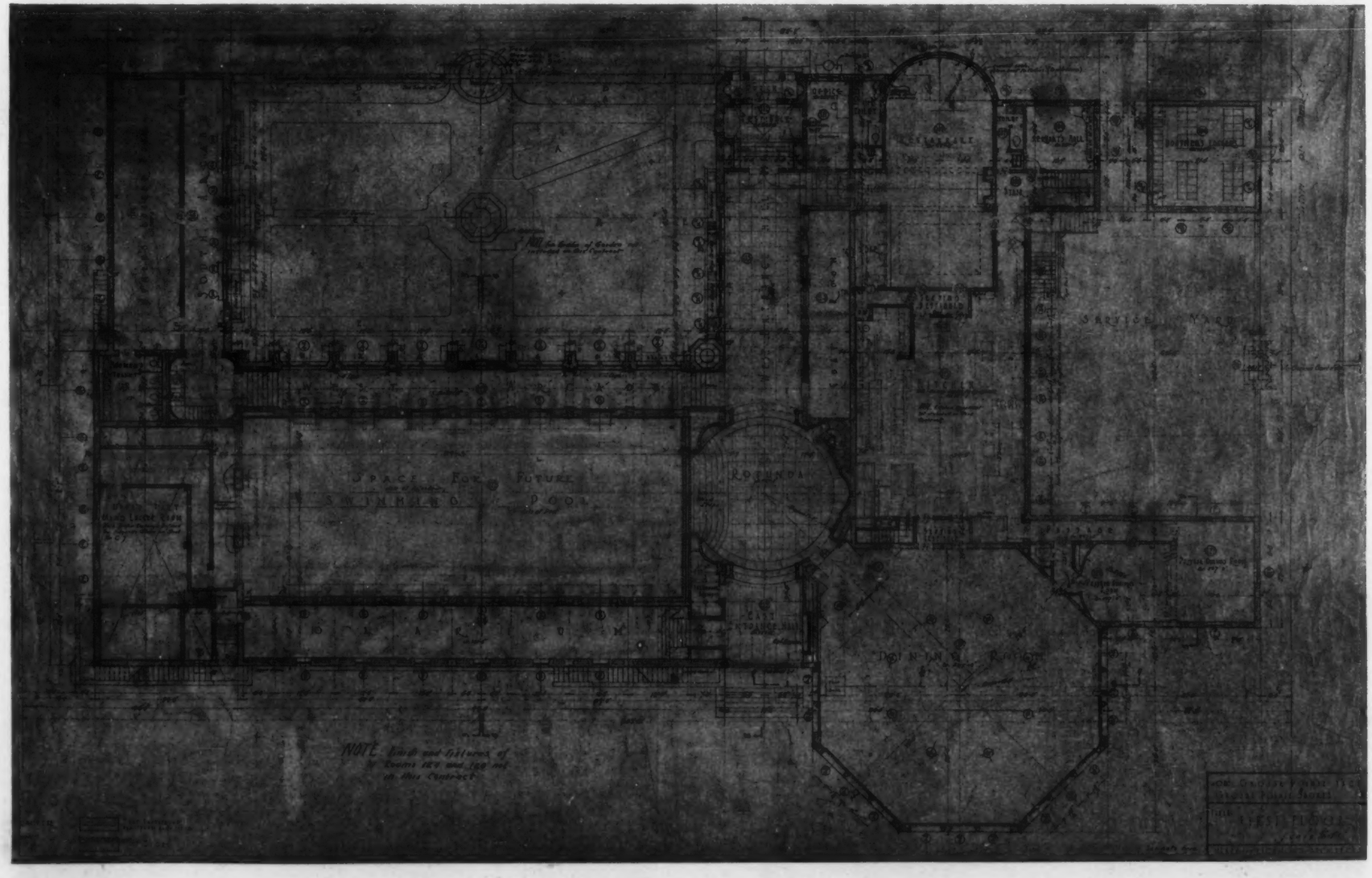
manding the yachting activities. The foyer is furnished with Italian cabinets of old brown wood, occasional Florentine busts and beautiful oriental rugs. Midway in this foyer is the focal rotunda of the composition from which a broad and easy stairway leads up to the main clubroom, the floor of which is raised a few feet only above the loggia level. From this rotunda, also, are the doors leading to the octagonal dining room, so placed in the composition of the plan as to release five of its sides for unobstructed view of the water. The central portion of the dining room is a vaulted clerestory supported on marble columns and decorated with frescoes of blue and old gold. Under normal circumstances this area would be reserved for dancing, but its other important function is to secure through the round windows of a conically-roofed clerestory, equally desirable light at the center of the room. The dining room will comfortably seat two hundred and fifty people. Directly connected with it is the kitchen and serving room lighted and ventilated through a monitor as well as through lateral windows. At the west end of this serving room is the men's restaurant designed to accommodate members of the Club who may wish to have light refreshments without bothering with gold-plated clothes and low-neck shoes. The private dining-room wing and boatmen's service and locker rooms are also found at this northerly end of the plan.

The main clubroom, which is the dominating mass of the structure, is a room 40′ x 80′ in plan, approximately 30′ high. The trim is of Kasota stone, the walls of sand-colored rough texture plaster, the floor a smoothly polished oak surface for dancing when occasion warrants, and the ceiling timbered with girders, beams, and decorated plaster caissons of a rich weathered brown. The seven arched French windows to the east lead directly to the open loggia, and on the westerly side are three high Gothic bays



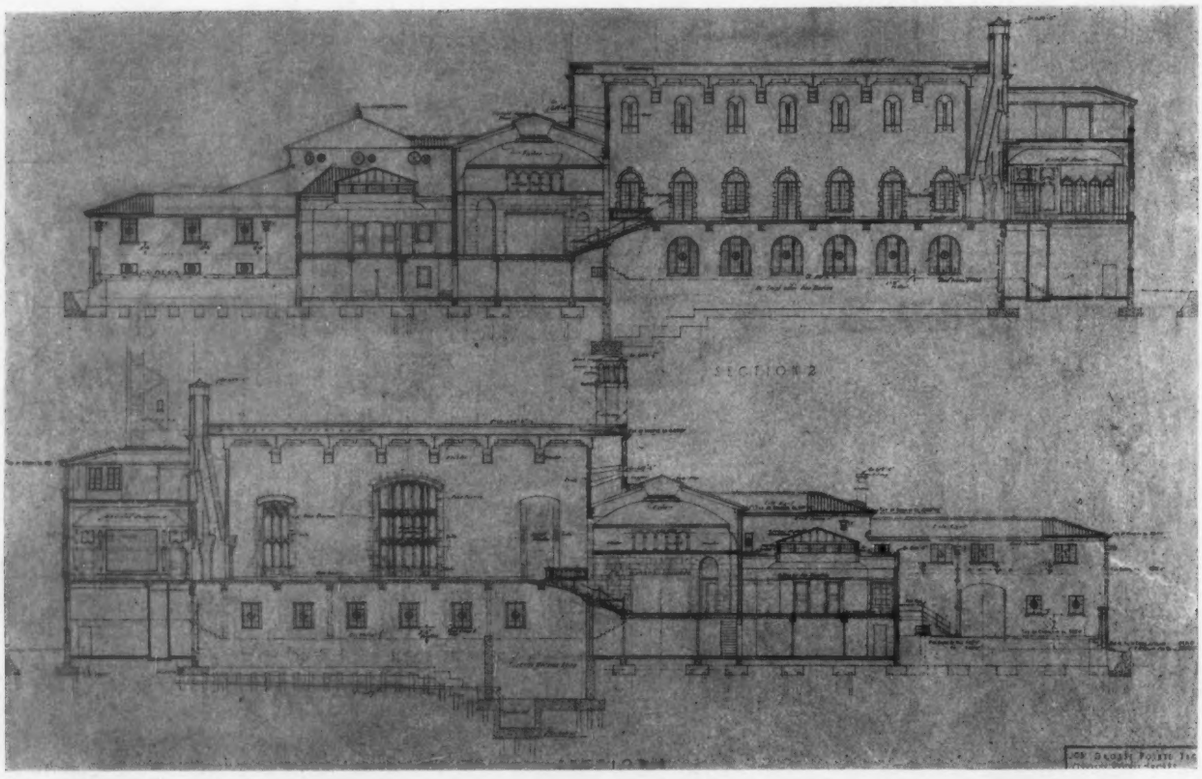
EAST ELEVATION—GROSSE POINTE YACHT CLUB, GROSSE POINTE SHORES, MICHIGAN

HENRY AND RICHMOND, ARCHITECTS

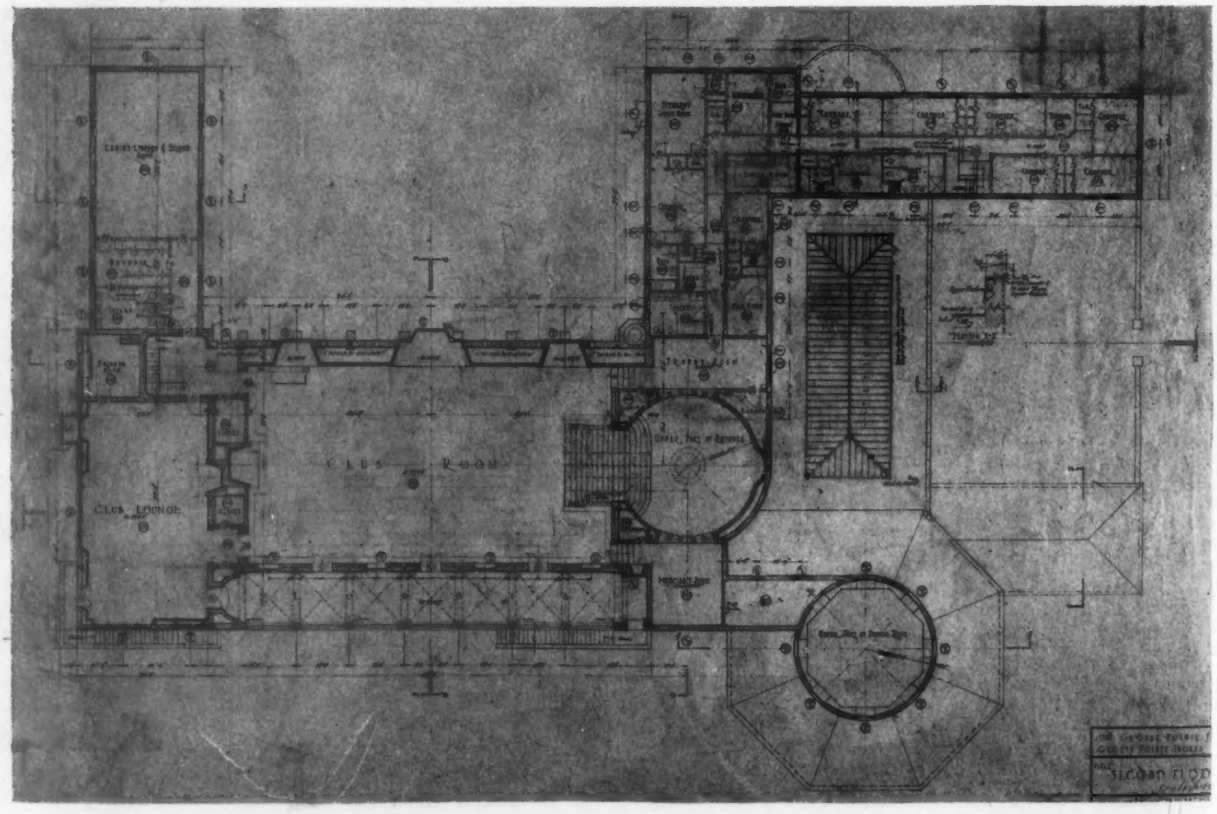



FIRST FLOOR PLAN—GROSSE POINTE YACHT CLUB, GROSSE POINTE SHORES, MICHIGAN

HENRY AND RICHMOND, ARCHITECTS

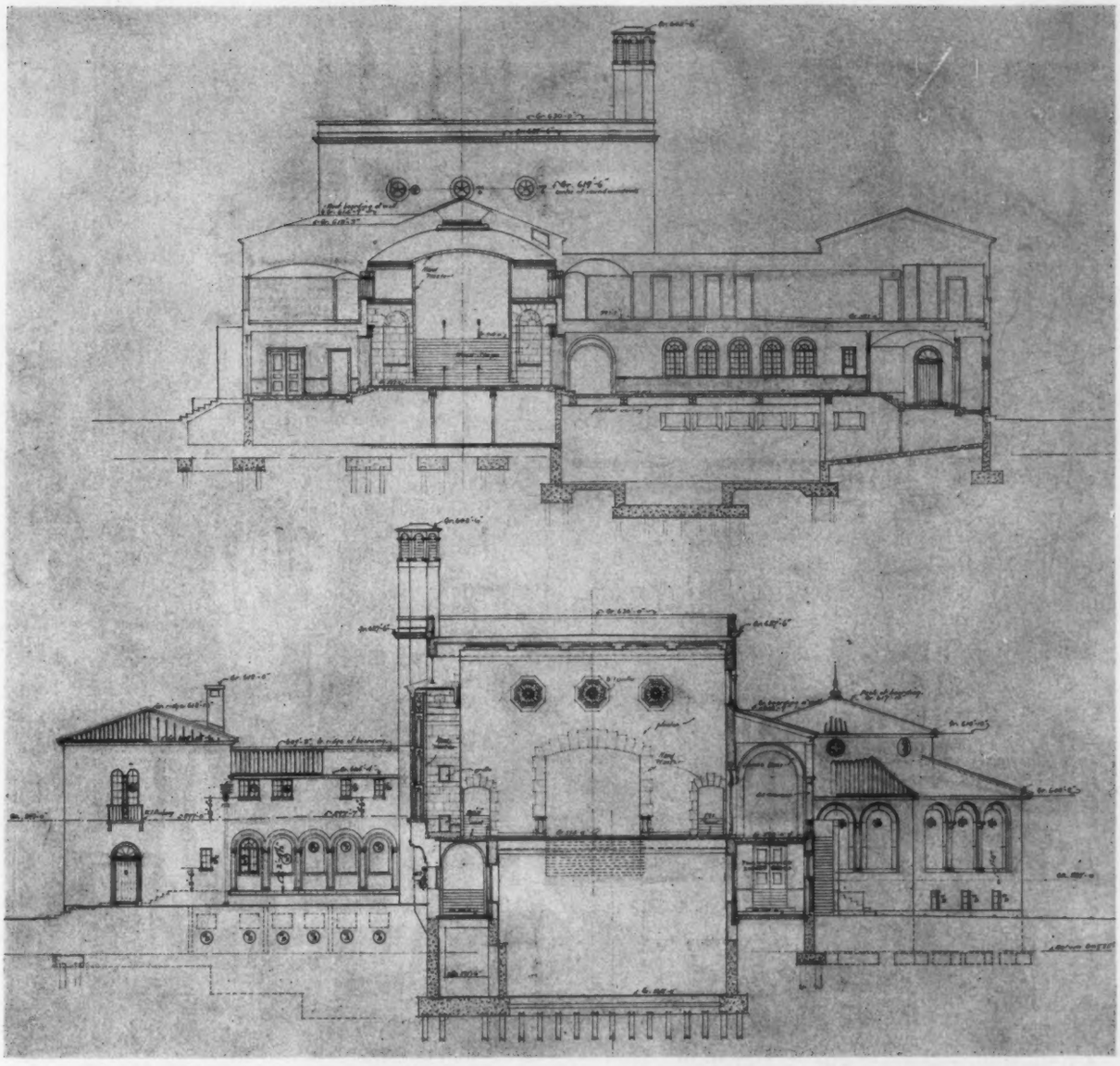


SECTIONS—GROSSE POINTE YACHT CLUB, GROSSE POINTE SHORES, MICHIGAN




SECOND FLOOR PLAN—GROSSE POINTE YACHT CLUB, GROSSE POINTE SHORES, MICHIGAN

HENRY AND RICHMOND, ARCHITECTS



SECTIONS—GROSSE POINTE YACHT CLUB, GROSSE POINTE SHORES, MICHIGAN

overlooking the Italian garden and commanding the western view. The lighting fixtures in this room and, indeed, throughout the Clubhouse are for the most part wrought iron made in Italy.

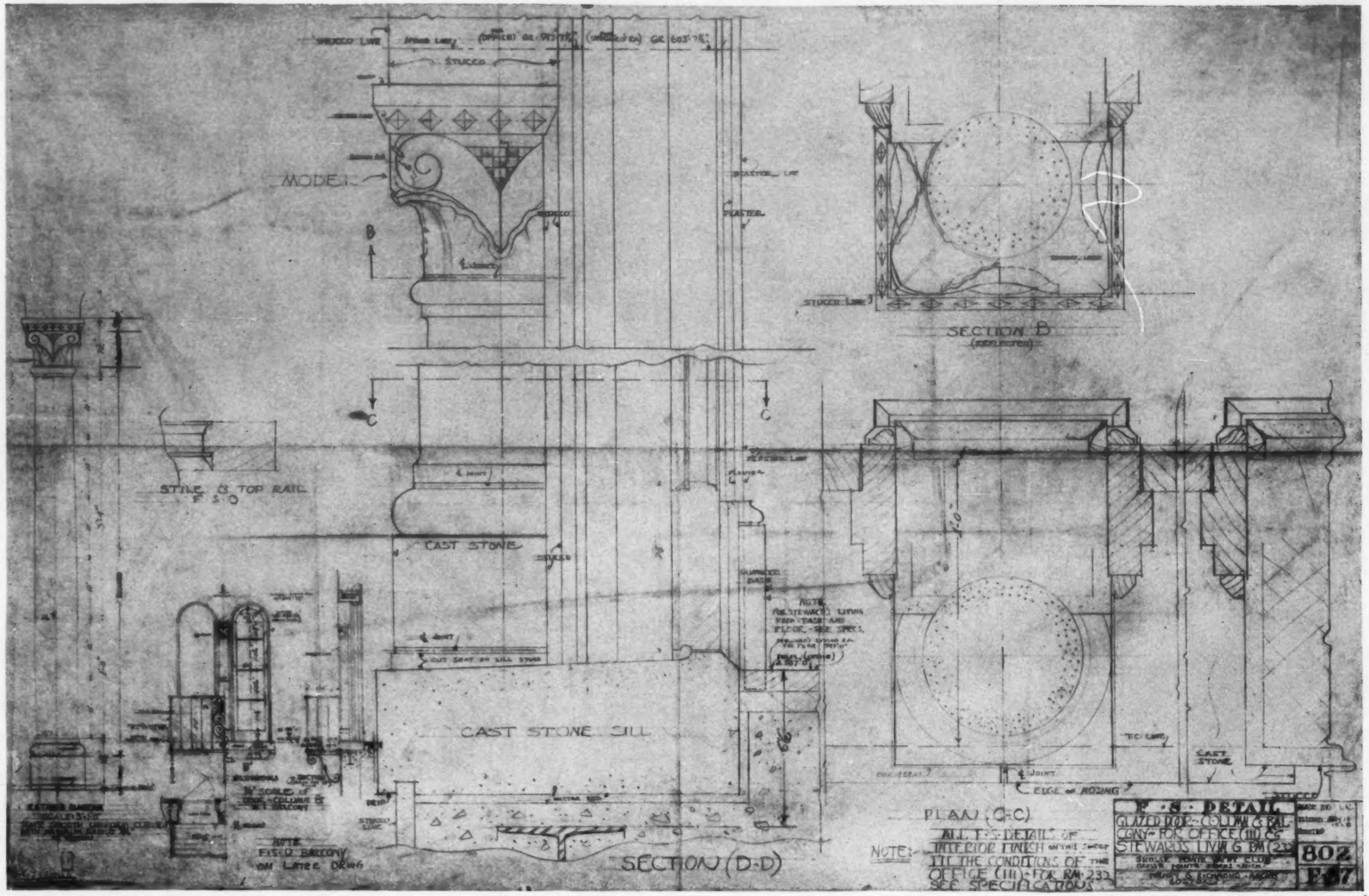
Over the Kasota stone mantel of the fireplace, at the southerly end of the room, hangs an oil painting by Frank Vining Smith, a Boston marine painter. The picture, a canvas of approximately 10′ x 20′, is the gift of Commodore John H. French of the Club, and represents the race among the Sea Witch, The Raven, and The Typhoon which was sailed from New York to San Francisco in 1851.

Joining the clubroom is a large club lounge, a dressy and colorful room to which the ladies' wing, containing a library and a room for bridge whist, directly connects. Above the lounge on the third floor is the directors' room, a cozy apartment from which an open loggia commands the yachting from the vantage point of isolation. The flat awning covered open roof nearby furnishes opportunities for club members and their guests to witness the racing.

A staircase from this level leads to the top of the Campanile, in the lantern of which a five-thousand-pound American bell strikes the hours and half-hours in the appropriate manner of the ship's clock.

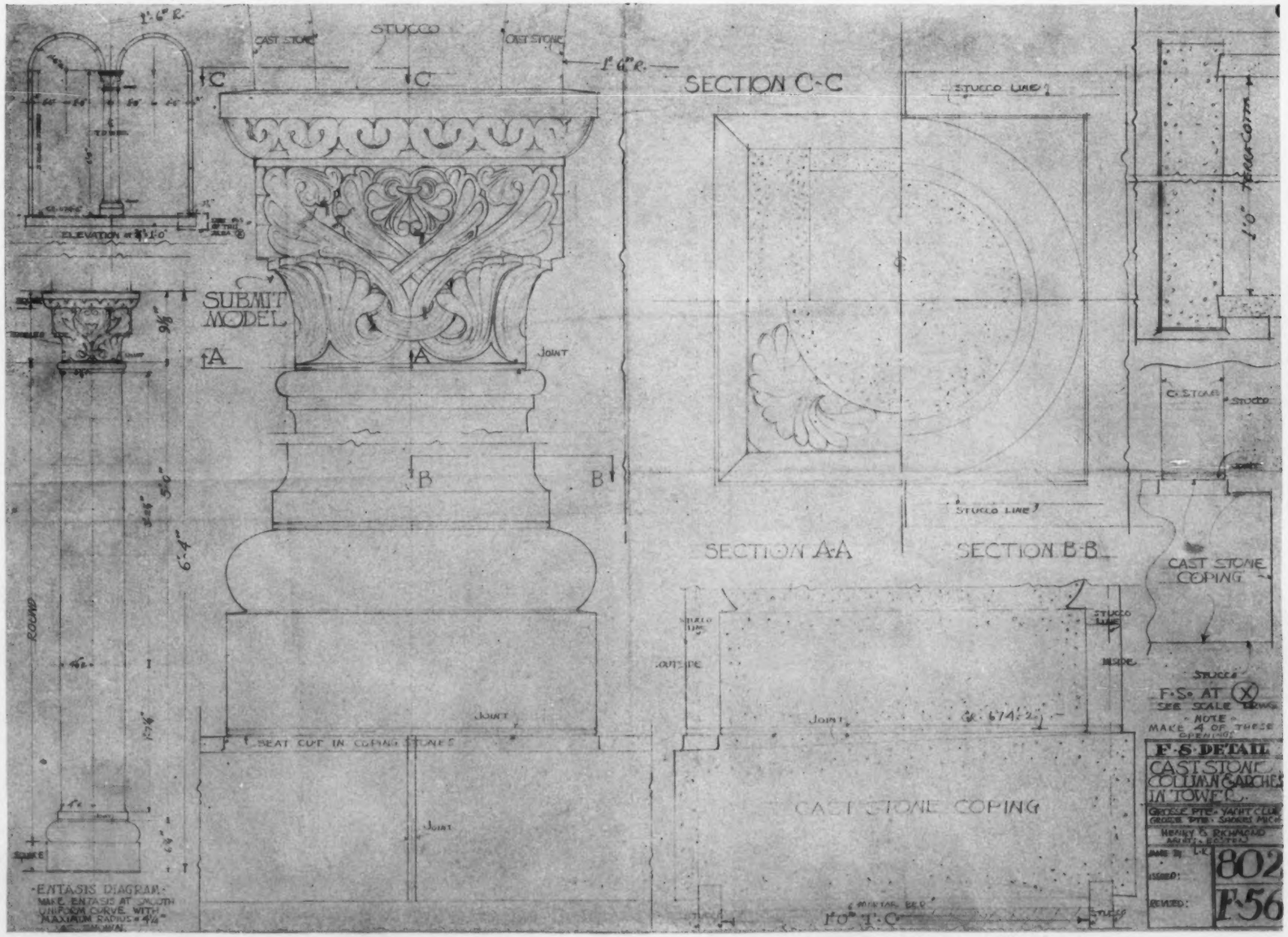
On the ground floor adjoining the main entrance foyer, under the main clubroom, is a modern swimming pool compartment with its solarium and a locker-room and bathroom wing. The solarium is so related to the swimming room chamber itself that all the swimming may be viewed in temperature conditions comfortable for those in street clothes, the dividing partition between the two being glazed and insulated so that the bathers themselves may have a higher temperature and humidity. It is not possible to enter the swimming pool compartment in street costume, and all precautions have been taken to maintain those other sanitary conditions which are the attributes of all up-to-date swimming pool equipment.

The architects' plans were started in the spring of 1927 and on the fourth of July of this year the Clubhouse was formally opened.



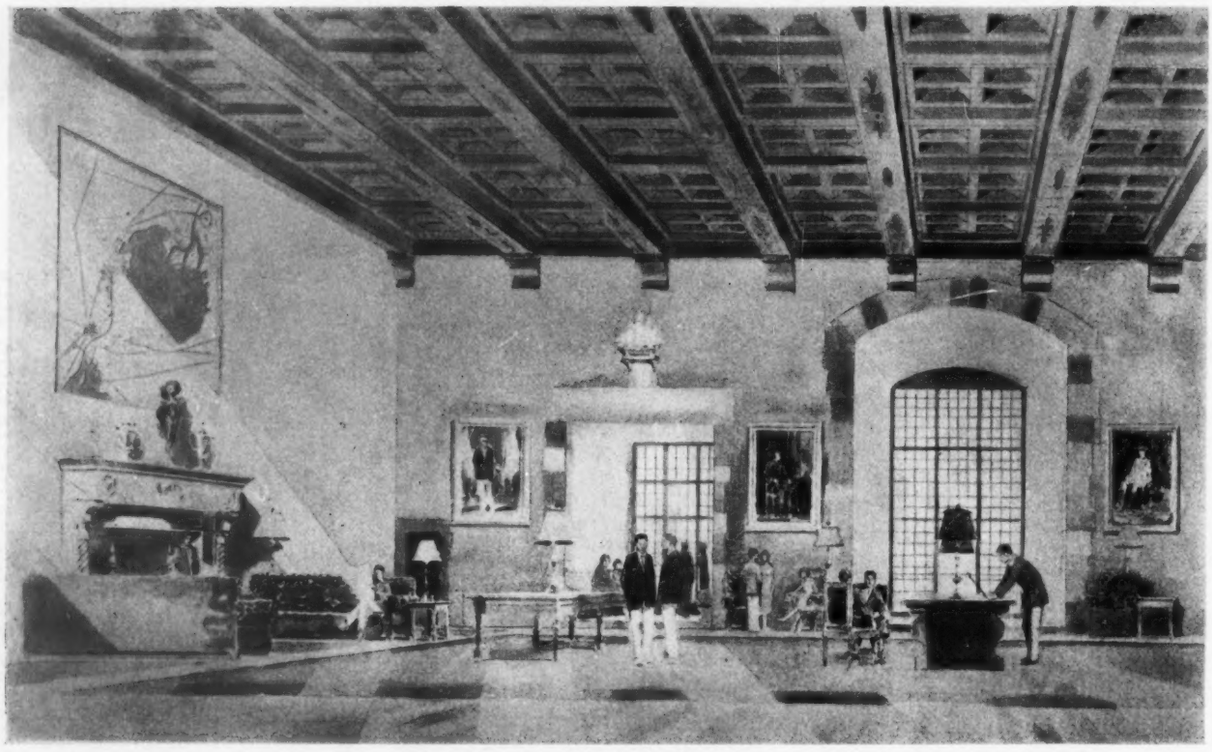

DETAILS OF CONSTRUCTION—GLAZED DOOR, COLUMN, AND BALCONY FOR OFFICE AND STEWARD'S LIVING ROOM—GROSSE POINTE YACHT CLUB

HENRY AND RICHMOND, ARCHITECTS

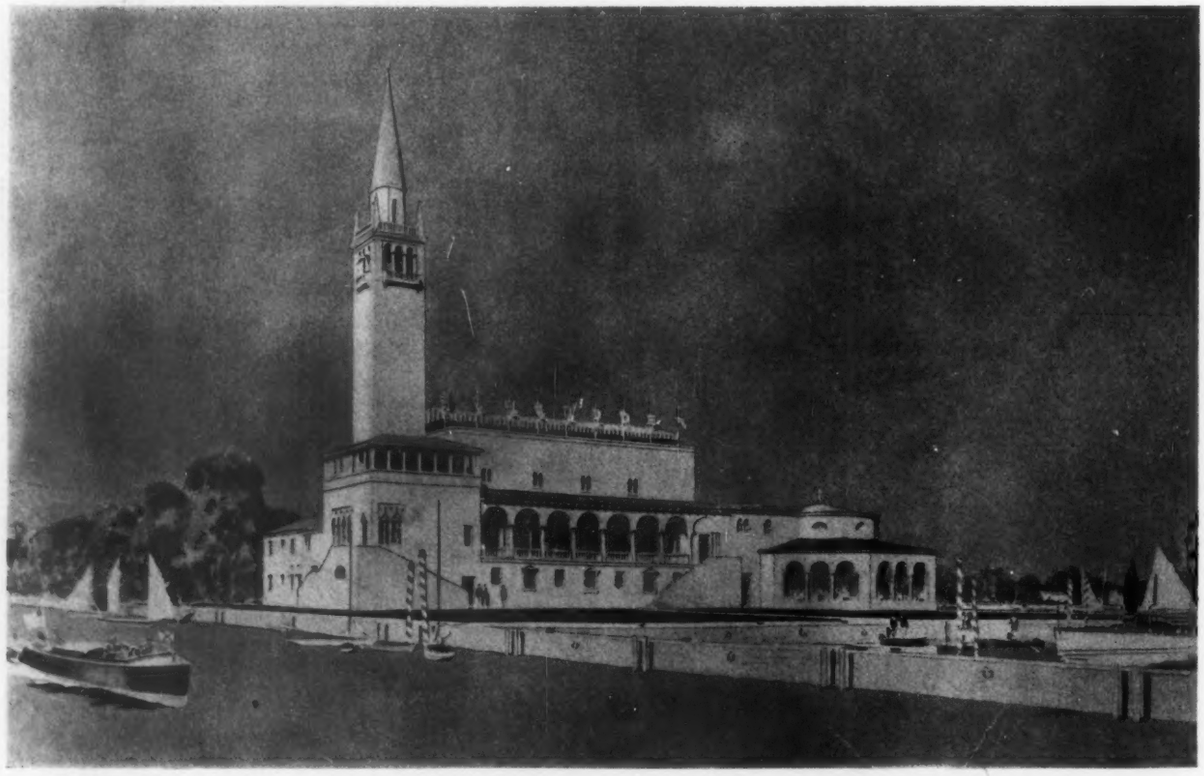



DETAILS OF CONSTRUCTION—CAST STONE COLUMN AND ARCHES IN TOWER—GROSSE POINTE YACHT CLUB

HENRY AND RICHMOND, ARCHITECTS



WATER COLOR SKETCH OF INTERIOR OF ONE OF THE LARGE CLUB ROOMS



FROM A WATER COLOR OF THE LAKE FRONT ELEVATION

GROSSE POINTE YACHT CLUB, GROSSE POINTE SHORES, MICHIGAN, HENRY AND RICHMOND, ARCHITECTS

UNIV. OF MICH.

# THE GEOMETRY OF ARCHITECTURAL DRAFTING

## PART 5—PROJECTION OF INHERENT OBLIQUES

*By Ernest Irving Freese*

EDITOR'S NOTE:—*This article, which is copyrighted, 1929, by the author, continues the series begun in the August issue.*

KILLING TWO BIRDS with one stone conserves ammunition and extracts applause from the multitude—*but,* if perchance it requires *two stones to bring down the one bird,* the bird will herein be bagged, regardless! For the particular winged biped here alluded to is the prerequisite *entrée* of the geometric banquet about to be served. It's an elusive bird. Has a sentence for a name. It's the "*Technique of Linear Projection*"—aimed at in Part 4 with the straight-shooting triangles and the T-square. Dress for dinner!

> "*Place the pencil at the one given point. Move the projecting straightedge into contact with the pencil. Move the pencil along the edge of the instrument.*"

The above synopsis, quoted from Part 4, outlines the general *modus operandi* of projecting any *inherent* line on the board. It is a compendium of the manifold technique of speed-and-precision heretofore completely developed and detailed both in respect to the dextrous handling of the pencil and the ambidextrous management of the sliding instruments.

Inherent obliques, like verticals, are established in *direction* by the existing lines of the triangles. The technical details of projection in each case are, therefore, substantially identical. Hence, where the explicit process is not herein *fully* portrayed, either graphically or in the text, it is because the same is analogous to one already adequately set forth in Part 4.

Inclined lines may be projected in eleven differing directions by use of the triangles operating in conjunction with the T-square, employing the former either singly or in pairs as the case may demand. These eleven obliques, and the requisite placement and manipulation of the triangles to produce them, have been charted in Part 3 at Figure 16. Five of them—the 22½, 30, 45, 60, and 67½-degree lines are produced with the triangles used singly. Six of them—the 7½, 15, 37½, 52½, 75, and 82½-degree lines—require two triangles. Under one certain extreme condition, the 7½, 15, and 37½-degree lines require a three-triangle set-up, as will be shown later.

In naming an oblique, the angle of obliquity, regardless of the relation of the so named line to other obliques or to the vertical, will always be referred to the horizontal as a base. For instance, in Figure 37, herewith, all coordinate lines of the oblique wings would be designated as 45-degree lines, although one set lies at 90 degrees to the other. The octagonal diagonals are here 22½ and 67½-degree lines, respectively, but each is perpendicular to the other. The lines of the Lounge fireplace linings are 60-degree lines, whereas, in the 45-degree wing of the Dining Room, they become 15 and 75-degree lines, but in both cases they make the same 60-degree angle with the wall. This reference of all angular *lines* to the horizontal, for the purpose of designation only, avoids confusion with relative angular *measurement,* clarifies and shortens explanation, and immediately brings to mind a mental picture of the instrumental combination required to materialize the oblique so named. Moreover, where an inherent oblique is mentioned or called for, it will be designated by the lesser of the two angles required to total 180 degrees: in effect, then, an *obtuse* oblique is nonexistent. If, say, it lies at an angle of 120 degrees to the horizontal, it remains, so far as the actual linear projection of the *line* is concerned, an oblique of 180 degrees minus 120 degrees, which is 60 degrees, or the supplement of the obtuse *angle.* Any oblique is common to *two* angles, as the diagram of Figure 37 makes clear.

So far, so good. You are now ready to tackle the "obliques." And, incidentally, you will learn some more "tricks of triangulation" as well as some more expeditious geometry of the drafting-room. In this Part, as in the foregoing Parts, any contingent geometry encountered in the laying out of the examples chosen for illustration will be made plain, forthwith, irrespective of the question as to whether or not it is particularly pertinent to the subject under discussion. In this way, by the time the more involved geometric problems are dealt with, you will have had not only a thorough training in, or knowledge of, manipulation and technique, but also will have accumulated a practical and applicable store of information relative to geometrical construction in general. No matter how "simple" a problem may appear, you may, nevertheless, herein find a way of *executing* it that saves one or more shifts of the instruments and, hence, *saves time.* Most anyone can, say, lay out an octagon. But who knows the *quickest* way of doing it *without sacrificing accuracy?* That's the point!

Now take a good look at Figure 37. There are several ways of laying out this common type of plan. It all depends on the starting-point. For the purpose of illustrating the technique of projecting inherent obliques, assume that the west corner, *a,* of the kitchen wing has first been fixed on the board by the laying down of the intersecting lines of the two walls. The known width of this wing is then laid off from *a* to *b,* thus fixing the south corner, *b,* as a given point from which the long 45-degree line *bc* must be projected in order to locate accurately thereon the essen-

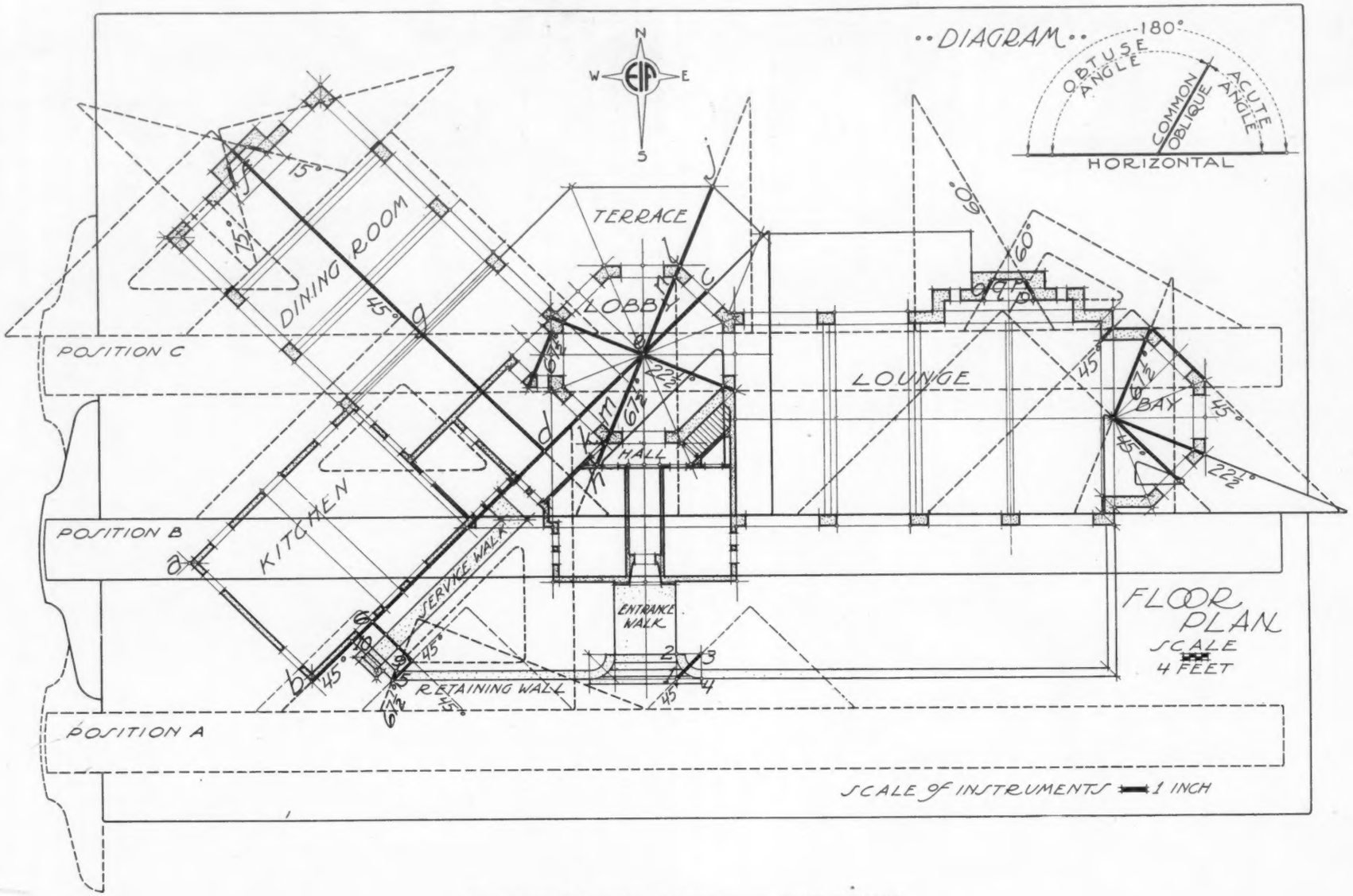



FIGURE 37—INHERENT OBLIQUES IN PLAN LAYOUT

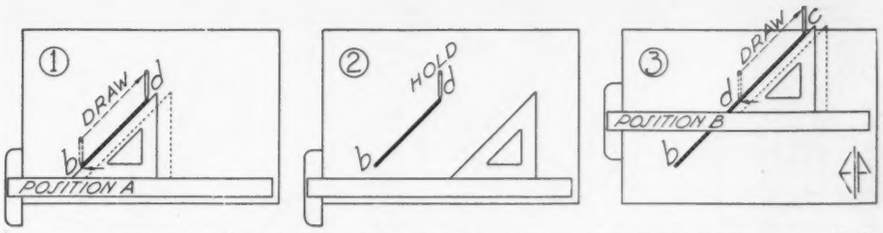



FIGURE 38—UPWARD PROJECTION ALONG *LIGHTED* EDGES

tial layout-points *d* and *e* of the Dining Room axis and the center of the Lobby octagon, respectively. This is the simplest case of oblique linear projection, the process of which has, in Figure 38, been "slowed down" to three stages and thereby made plain without further verbal ado—assuming, of course, that the knowledge heretofore promulgated in Part 4 has been duly assimilated. The only difference between this and the analogous vertical projection minutely described and detailed in Part 4 (Figure 29) is that, after projecting the initial portion of the line, say *bd*, the triangle must be moved far enough to the right to come within convenient reach of the fingers when the combination is slid upward to position "B" for projecting the prolonged portion, *dc*, of the required line *bc*, as shown. The process shown in Figure 38 is identical for all obliques procured with the triangles used singly when the given point occurs at the *lower* end of the line needed. In all *these* cases the pencil is drawn upward—*away* from the given point.

Now assume that the conditions are reversed, that is, that the required line must, of necessity, be projected from a given point, *c*, occurring at its *upper* extremity instead of at its lower one. The conditions are reversed, but the process is *not*. The process is outlined in the six-stage diagram of Figure 39, herewith, and is substantially the same as the one given in the nine-exposure reel of Figure 30, Part 4, for verticals. Note that the one given *point* is first projected downward, but that the required *line* is drawn upward—*toward* the given or shifted point.

In the two cases given in Figures 38 and 39, the lines have been drawn along the *lighted* edges of the triangles—assuming the light as coming from the left. However, unlike verticals, it is *commonly* necessary to draw obliques along the *unlighted* edges of the triangles, that is, along their right-hand ruling edges. It is to be noted, though, that the precise technique herein and heretofore explained, *does not require that the line be seen as it is drawn*, for the previously-placed pencil stops the projecting instrument at the exact point given. The line can *then* be drawn *in the dark*—or with your eyes shut—if you are inclined that way!

The two diagrams submitted in Figures 40 and 41 indicate clearly the process of projecting obliques along the *unlighted* edges of the instruments. In Figure 40, for instance, it is required to project a necessary line from the one given point, *f*, fixed at its upper extremity. The line *fd* in Figure 37, which is the axis of the Dining Room wing, would be such a line. Or, if the one given point is *d*, occurring at its lower extremity—as it is more apt to occur—then the required line is projected as per the six stages outlined in Figure 41. In *these* cases, the actual required *lines* are drawn downward: in the first instance directly, and in the second instance by first projecting the given *point* progressively upward. Here, *as in all cases*, the manipulation and technique operate to avoid the condition of having to *push* the pencil by rendering it easy and expeditious to *drag* it instead. The euphonious term "pencil *pusher*" is not a moniker to brag about. No draftsman skilled in the art of precise rendering ever *pushes* a pencil—he *drags* it.

It is quite a usual thing both in general laying out and in straight geometrical constructions, that required obliques must be projected *through* a given or fixed point instead of *from* it. In Figure 37, for example, suppose the center, *e*, of the octagonal Lobby is first fixed on the board by laying down the vertical and horizontal center lines of the octagon—a perfectly logical thing to do in this case, since this octagon is, in reality, the nucleus of the entire plan. It then becomes incumbent to project the required line *bc* through the one given point *e*. In all such cases bring the projecting triangle into touch with the pencil previously placed at the one given point. Then shift the pencil to that extremity of the triangle from whence the required line, or that portion of it within reach, can conveniently be drawn by *dragging* the pencil to the other extremity. In the case cited, the pencil would be shifted to, say, the vicinity of the point *d*, and the line would then be drawn from *d* to *c* through the one given point *e*. If an extension

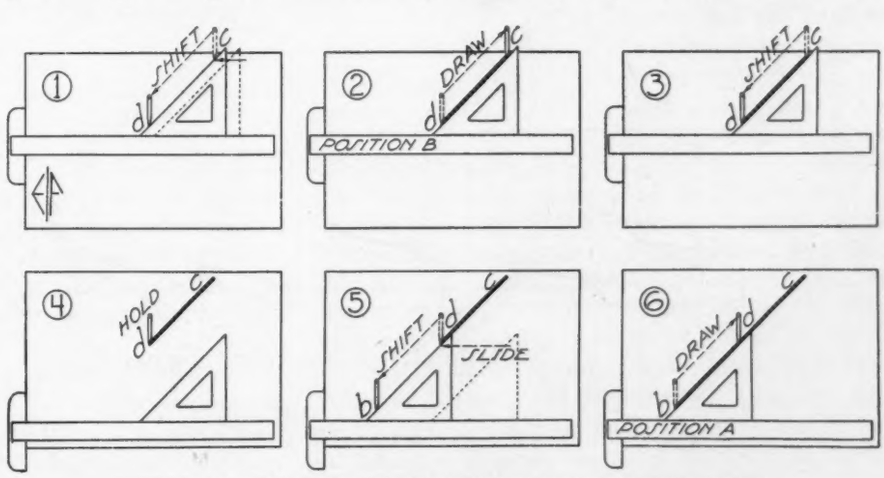



FIGURE 39—DOWNWARD PROJECTION ALONG *LIGHTED* EDGES

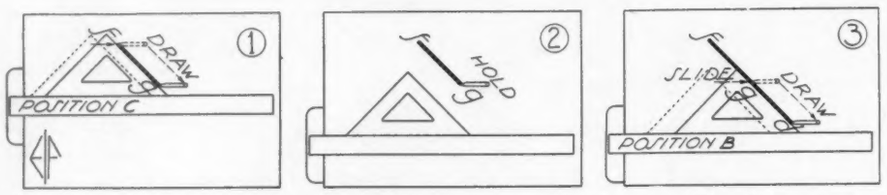



FIGURE 40—DOWNWARD PROJECTION ALONG *UNLIGHTED* EDGES

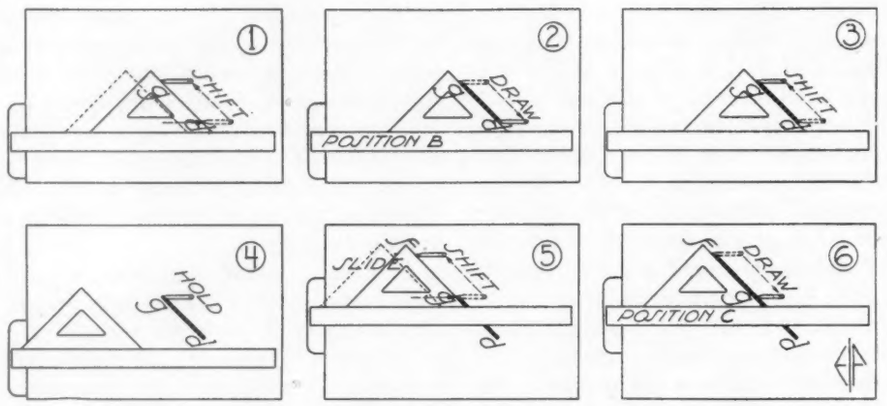



FIGURE 41—UPWARD PROJECTION ALONG *UNLIGHTED* EDGES

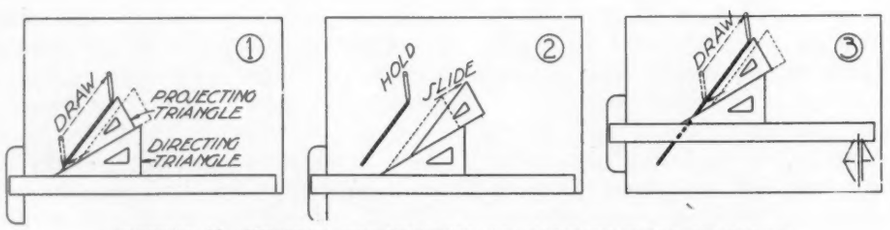



FIGURE 42—TYPICAL PROJECTION OF COMBINATION OBLIQUES

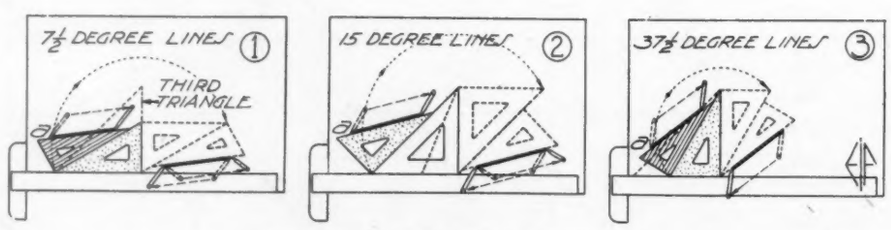



FIGURE 43—SOME TIGHT PINCHES

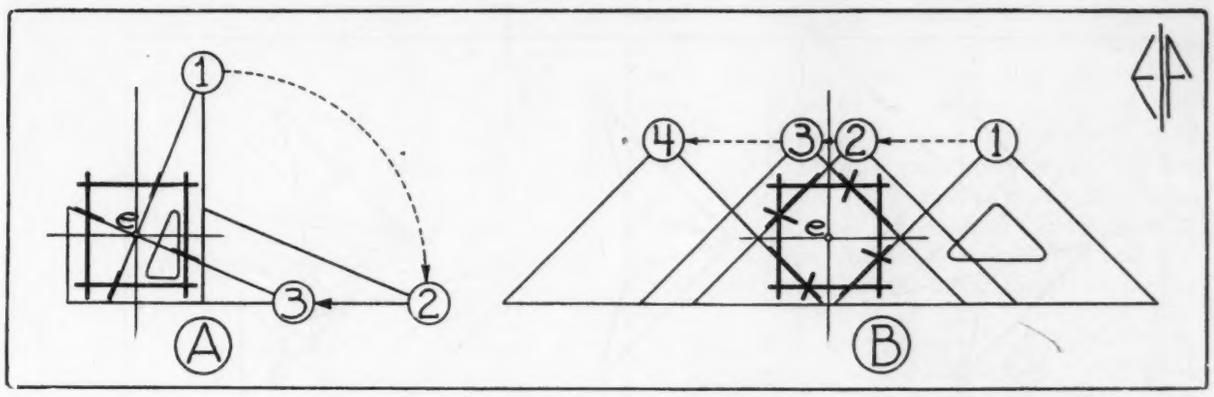



FIGURE 44—"CUTTING THE CORNERS"

of the initial line is required, the pencil would again be shifted along the edge of the unmoved instrument to point *d*, or thereabouts, and, while there held, the instrumental combination moved downward to position "A" so as to accommodate the required extension which latter would then be projected by a repetition of the initial process.

Another typical case of two-way projection is shown in Figure 37, where the 67½-degree line, *hj*, is projected through the same given center, *e*, of the octagon. This useful oblique, where it crosses the prolonged horizontal wall lines of the octagon, locates at once the points *k* and *l*, as well as the points *h*, *m*, and *n* of the paralleling wall lines and the point *j* marking the break in the terrace.

In Figure 42 is diagrammed the projection and extension of a 52½-degree line which dictates the typical procedure for all obliques producible by a *two-triangle* combination. In these cases the "projecting" triangle is operated by one or more fingers of the hand which, at the same time, is holding the "directing" triangle and the T-square in firm conjunction. Otherwise, the technique and manipulation for all such combination lines, and for any other position of them on the board, is essentially the same as for lines drawn in corresponding positions with the *single* triangles.

Figure 43 depicts the one extreme position on the board in which a *three-triangle* combination must be resorted to, in conjunction with the T-square as a base, to produce 7½, 15, and 37½-degree lines. In each of these three separate cases the ordinary two-triangle combination yielding these obliques is drawn in solid lines. It is thus made apparent that, due to the *big* end of the projecting triangle being lowermost, it becomes impossible to project these lines to or from a point, *a*, any closer to the lower edge of the board than indicated in the Figure. In any one of these cases, the ordinary two-triangle combination, if revolved through 180 degrees *without turning it over*, will, as indicated by the dotted lines in the Figure, bring the lower extremity of the required line closer to the lower edge of the board. A third triangle is then added to the revolved combination in order to maintain same in equilibrium with the T-square. The required line can then be drawn along the reversed ruling edge of the projecting triangle. This is a good one to "practice on." It will tax your manipulative ability to the fullest extent to hold the T-square and the third triangle in solid conjunction with the directing triangle and the board, and, at the same time, to maneuver the projecting triangle into position for drawing the needed line along its *lower* edge. In isolated cases, the above awkward situation can be averted by removing the T-square from interference with the two-triangle combination, meanwhile holding the directing triangle firm and sliding the other downward therealong to the point given. A case of this kind is shown in the extreme lower right-hand corner of Figure 47 at diagram "F," to which temporary reference may be made. The 15-degree line of the truss diagram has there been placed in the latter manner.

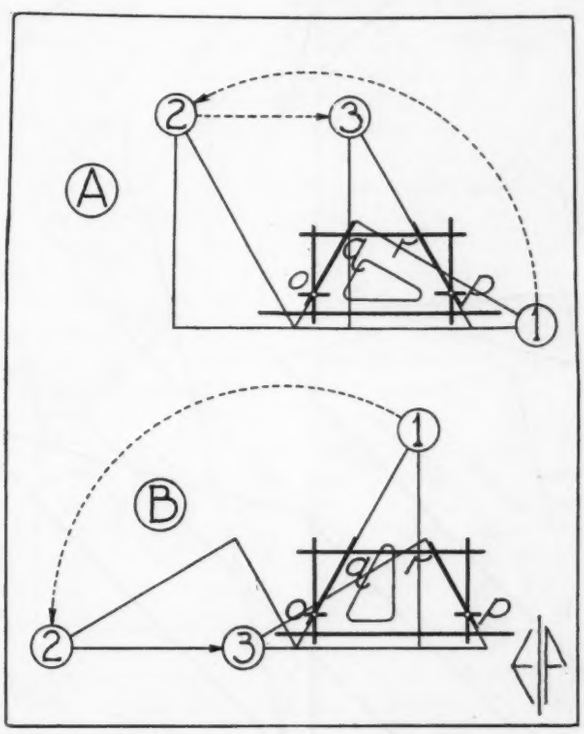



FIGURE 45—"JUST TURNING SIXTY"

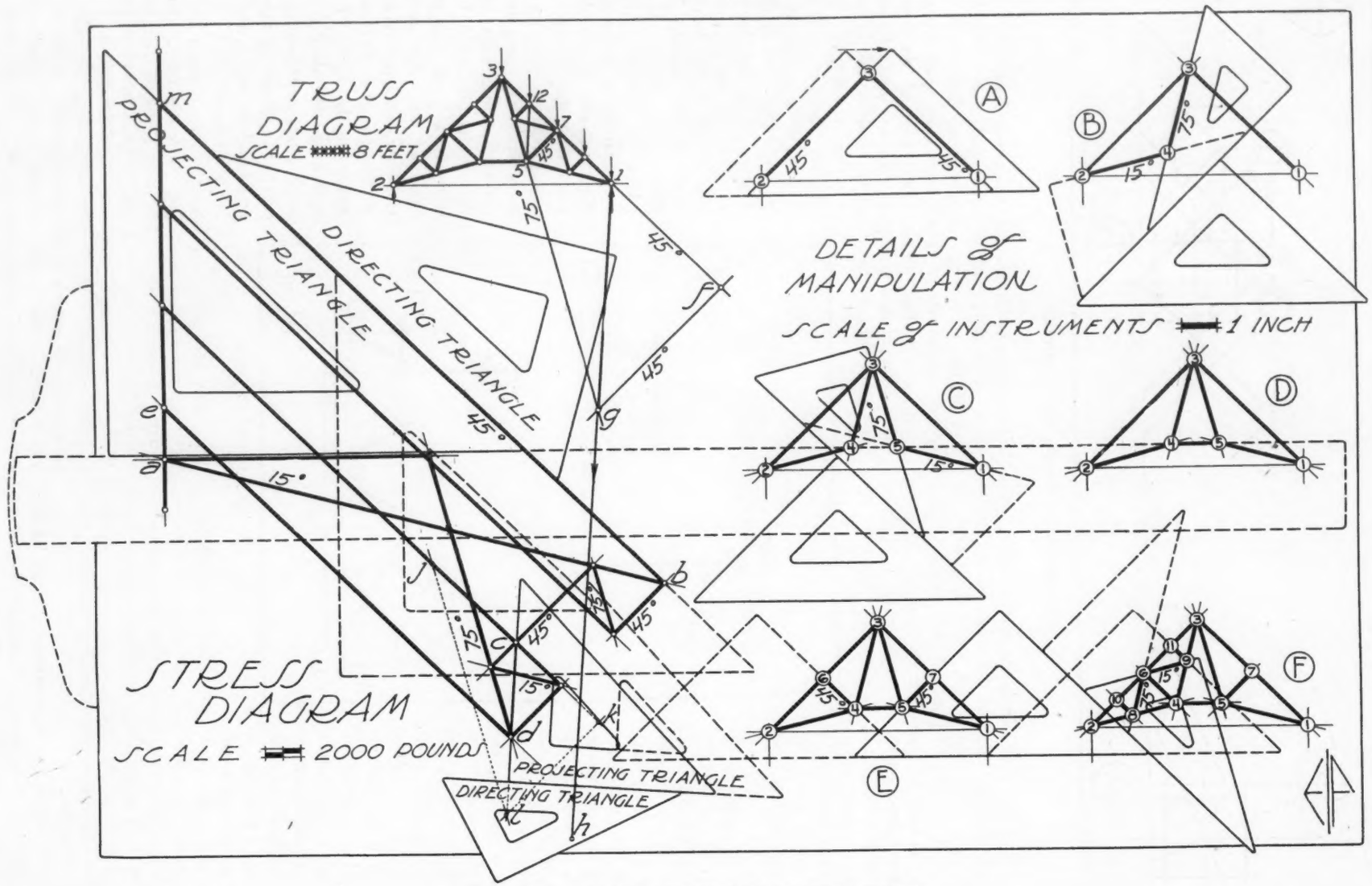



FIGURE 47—INHERENT OBLIQUES IN GRAPHIC STATICS

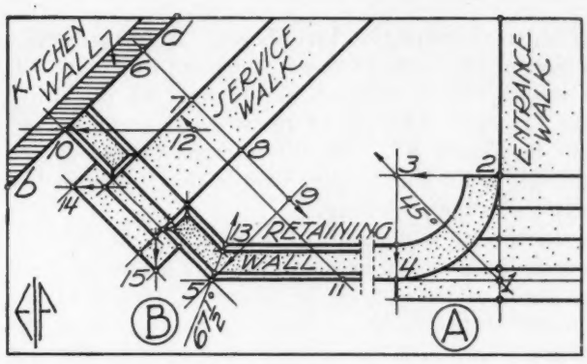



FIGURE 46—GEOMETRIC DETAIL OF FIGURE 37

The fastest method on record of laying out a full octagon is presented in Figure 44. First, as at "A" establish the square limits and cut these along the hypotenuse of the 22½-degree triangle placed in the positions *1* and *3* as shown: the hypotenuse being aligned with center *e* by the pencil-point timely placed there for that purpose. Then, with the 45-degree triangle operating with its *hypotenuse* on the T-square, run in the four oblique sides as shown at "B." No motion has been lost. Every move produces a result. Two time-consuming factors have been eliminated: the *use of the compass* and the *picking up and turning over of the triangles*. Try it. Then lay out the half octagon of the Lounge Bay of Figure 37 in the same manner. Of course, the complete circumscribing rectangle need not be drawn—only the short lines marking the limits of the rectangular diameters, and of sufficient length to contain the horizontal and vertical sides of the half or full octagon, as the case may be. These lines will have been established in the initial stages of the plan layout.

Another manipulative expedient is indicated in Figure 45, which shows two methods of laying down convergent 60-degree lines *without turning the triangle over*. These apply to the laying out of the fireplace linings indicated on Figure 37, given the points *o* and *p* and the line of the fireback. They would apply equally well to the locating of the center of a 60-degree segmental arch, given the spring points. Observe, again, that this "simple" little operation *contains no lost motion*. Take note, also, that in the laying out of the linings of the Dining Room fireplace, the 60-degree triangle operates on the 45-degree edge of another instead of directly on the T-square, thus producing the 15 and 75-degree lines so marked in Figure 37.

In laying out the entrance walk and retaining wall shown in Figure 37, the points *1* and *2* thereby become fixed. The distance *1-2*, then, establishes the outer radius of the curved buttress. The following problem then presents itself for speedy solution: "*To draw a circular arc tangent to two given intersecting rectangular lines; one point of tangency being given.*" Hence, as detailed at "A," Figure 46, project a 45-degree line from *1* to intercept a horizontal from *2*, which yields the required center, *3*, of the buttress. A vertical from *3* locates the *point* of tangency *4*, if same is wanted, which, in this case, fixes the return point of the first riser. The above method employs the *45-degree line*, instead of the scale or the compass, to *transfer measurement*. Ordinarily, this is a timesaver, and is of general application in all cases similar to the one given.

Now, to finish the "geometry" of Figure 37, the point *5*, where the horizontal retaining wall breaks direction, must be located. Any of several conditions may be given, but the following "solution" will comprehend all of them. Now refer to detail "B," Figure 46. Project *any* line, say *6-9*, perpendicular to *bd*. On this lay off the width *6-7* of the planting-space, then the width *7-8* of the service walk, then the distance *8-9* equal to *6-7*. In other words, make the total distance *6-9* equal the required or desired length of the return wall. Then project *9* in a direction parallel with *bd*, to the front horizontal line of the wall—thus locating *5* where the wall changes direction. Or—an alternate method—project *any* line, *11-12*, in a direction parallel with the required *direction* of the return wall, and make this distance equal the required *length* of the return. (In this case it is the same distance as *6-9* previously laid off.) It is now apparent that, since the line *11-12* here represents both the length and direction of the required line *10-5*, all that has to be done is to project *12* horizontally to the line *bd*, which stops it at point *10*, and then draw the required line *10-5 parallel* with *12-11*. This, in effect, moves the given *line*, *12-11*, into the required *position 10-5*. Wherefore, another problem is "solved." You now know what it means "*To draw a transversal of two given converging lines; the direction and intercepted length of the transversal being given.*" The lines *db* and *11-5* are the "two given converging lines." The "transversal" is the required line through the points *10* and *5:* its given "direction and intercepted length" being represented by the line *12-11*. In the particular case here illustrated, all of the obliques are 45-degree ones. The line *5-13* is therefore a 67½-degree line which establishes the break of the other side of the wall as well as the breaks in the lines of the coping, that is, it is the *mitre line* of the two portions of the wall. Finally, note the use of the short horizontals and verticals for establishing the corner points *14* and *15* from which the first riser returns

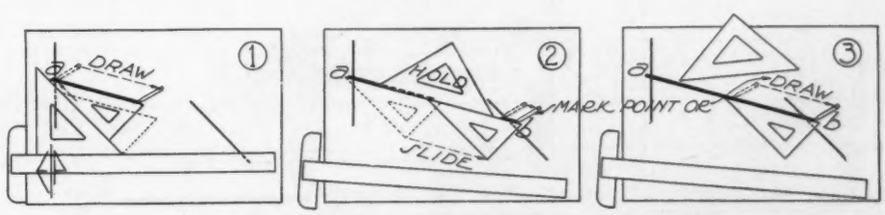



FIGURE 48—ALTERNATE METHOD OF PROLONGATION

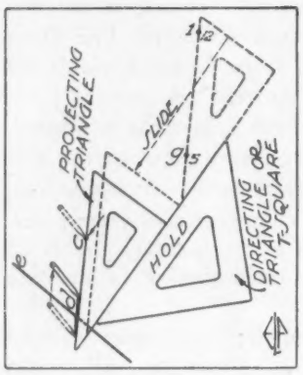



FIGURE 49

perpendicular to the wall. This is analogous to the same use of the 45-degree line already shown at detail "A," for *transferring measurement.*

In no branch of architectural drafting is there more call for precise linear projection than in the graphical analysis of roof trusses and other structural members. A typical case of this kind is illustrated in Figure 47. The lines are mostly "obliques" and, in the case shown—a common one—the obliques are inherent lines of the triangles. The truss diagram is here laid out by making but one measurement: the horizontal span, which fixes the points *1* and *2*. The exact manipulation to produce all lines of this truss is fully detailed in the Figure: the operations being performed in the order of numbering noted on the progressive diagrams "A" to "F," inclusive. The alternate method here indicated of projecting the long 45-degree lines of the stress diagram (of which *mb* is one), by means of a "directing" triangle, is a practical variation of the alternate process heretofore indicated for verticals in Part 4 at Figure 33, and is particularly apt and expeditious for the type of geometric construction here shown. A further application of the same process is suggested in Figure 48, herewith, which indicates the manner of producing the 15-degree line, *ab*, of the stress diagram worked out in Figure 47. In this instance the 45-degree triangle is the directing one while the 30-degree triangle does the projecting.

In the stress diagram of Figure 47, the point *d*, which limits the stress line previously projected from *e*, must, in some cases, be found by projecting the known point, *c*, in a direction parallel with the *nonce diagonal, 12-5,* of the truss diagram. But this *12-5* line is not congruent with any line of the triangles, nor is it here long enough to establish its direction with the exactitude required for the purpose of drawing a parallel thereto. There are two or three ways of overcoming this difficulty, dependent upon the relation of the two diagrams to one another on the board. One way: construct the large triangle, *3-1-f-g,* similar to the given triangle, *3-12-7-5,* of the truss diagram, by prolonging the truss lines and utilizing the inherent obliques of the instruments as indicated. The line *1-g* will then accurately establish the direction of the nonce diagonal *12-5*. The line *1-h* can then be projected through *g*, possibly utilizing the T-square as a straightedge, and the required parallel therewith—which is *cd* of the stress diagram —established therefrom with the sliding triangles shown in this Figure. Or the parallel can be directly transferred from *1-g* as per Figure 49. Another method: call the point *c*, of the *stress diagram* in

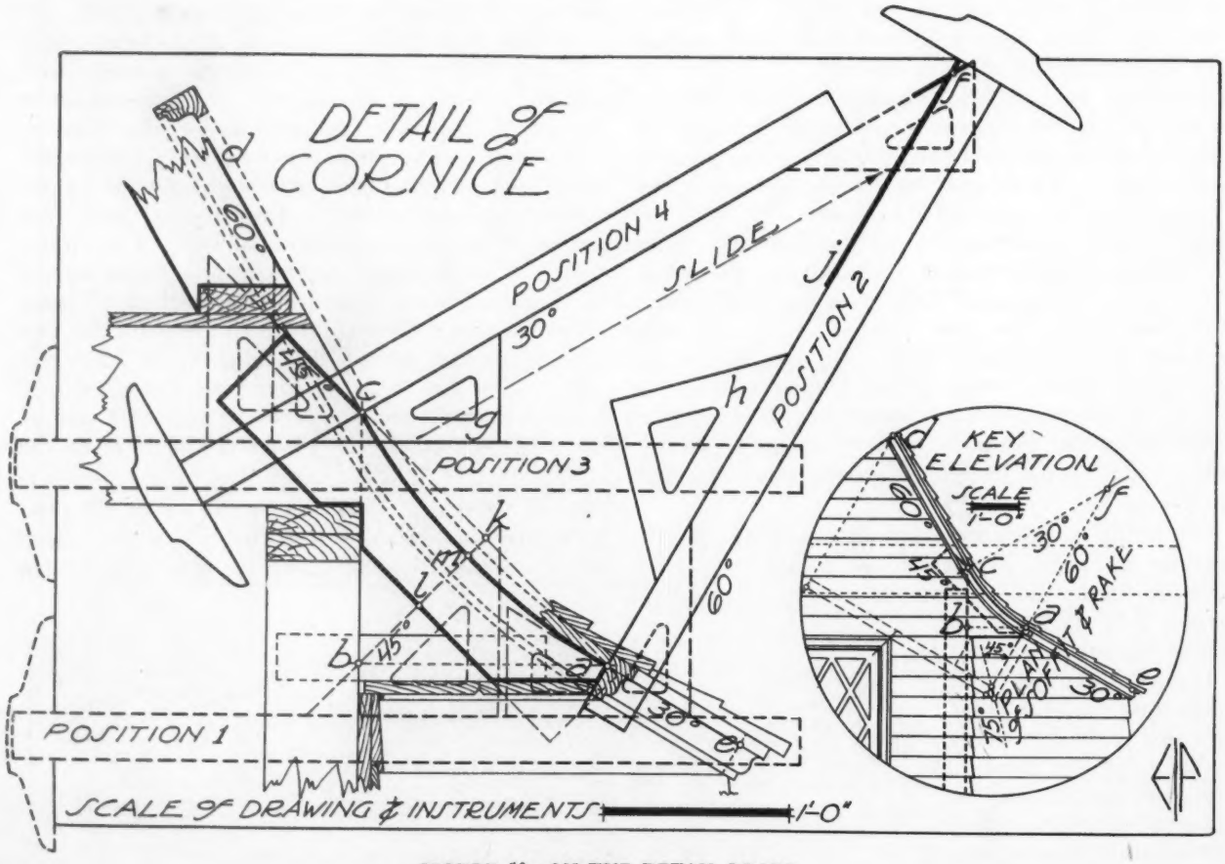



FIGURE 50—ON THE DETAIL BOARD

Figure 47, point *12* of the *truss diagram*. Then, from this point as a starter, enlarge that portion of the truss diagram required to yield the line *cd*. In the Figure, this results in the portion *j-c-k-l*, of which *cl* is the required line corresponding to the nonce diagonal *12-5* of the truss. But the easiest method of all is to lay out the truss diagram, to begin with, at large enough scale to establish accurately the direction of any extraneous lines therefrom required in the stress diagram. These lines can then be transferred *directly from the truss* by the general drafting-room method of drawing parallels heretofore illustrated in Part 1 (at diagram "E" of Figure 1)—of which the operation indicated herein at Figure 49 is a particular and more precise application.

At Figure 50 is presented a problem in oblique linear projection on the detail board. It is representative of numerous cases met with in the drafting-room, wherein long inherent obliques must be projected far beyond the possible or convenient reach of the triangles. The case shown in the Figure is a reduced reproduction of a full-size detail of a gambrel cornice and rake. The overhang, *ab*, is here equal to the vertical rise, *bc*, of the eaves sweep. Hence, the chord, *ac*, is a 45-degree line intermediate in slope between the main 60-degree rafter line, *cd*, and the "pulled down" line, *ae*. The sweep rafters are therefore "half pitch," and a 45-degree line through *b* will cut across the rafters at *lk* and, after the sweep is drawn, determine their minimum depth *ml*. It now becomes necessary "*To draw a circular arc subtending an angle of 30 degrees; the given chord lying at an angle of 45 degrees to the horizontal.*" Center, *f*, of the sweep, is found as follows: Place the T-square in position *1*. Slide the 60-degree edge of a triangle into contact with the pencil at point *a*. Remove the pencil, hold the triangle firm, and place a directing triangle, *h*, in contact therewith. Hold *h* firm, remove the other triangle, and shift the T-square to the projecting-position *2*, upside down, in full contact with *h*. Draw the line *jf* of sufficient length to assure of a 30-degree line from *c* cutting it. Next place the T-square in position *3*, place pencil at *c*, slide the 30-degree edge of *g* into touch, remove the pencil but hold *g* firm, and then shift the T-square into the directing-position *4*, again upside down and in solid contact with the projecting triangle *g*. Now slide *g* up along the blade to cross the other line at *f* —the center required—from which the sweeps of rafters and rake must be drawn. But don't unlimber your beam-compass. That method of drawing long-radius arcs is too slow! Use the T-square. Drive an oversize pin, or a finish brad, or a shingle nail—anything that's *round*—into the board at center *f*,

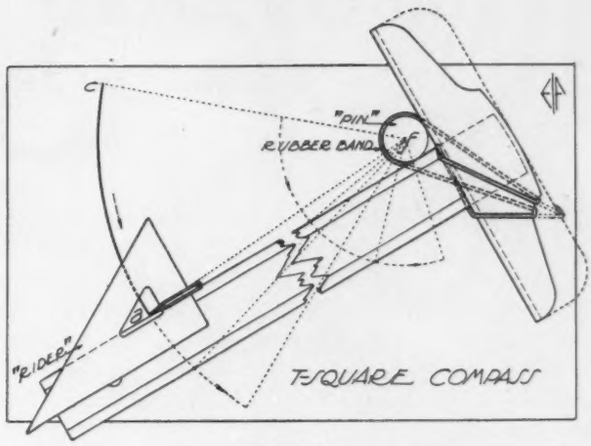
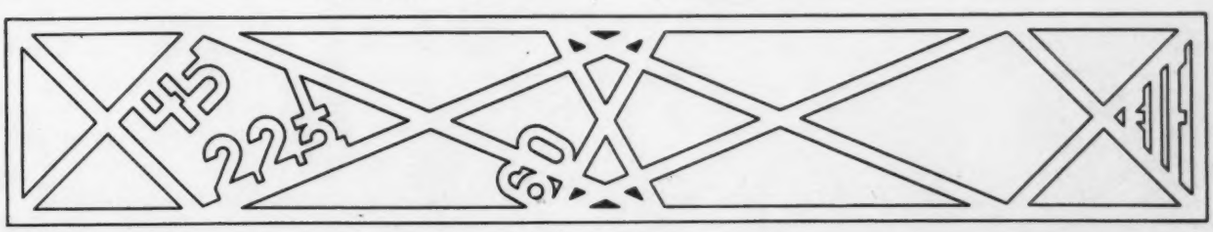



FIGURE 51

leaving the "pin" sticking squarely out of the board a distance at least as great as the combined thickness of the T-square head and blade. Slip a rubber band over the blade of the upside-down T-square. Slide the band on up the blade until the head of the T-square stops it and the band begins to—no, not *play* —*stretch*. When the stretch becomes sufficiently extensive, wrap the band over and under the head and blade as indicated in Figure 51. Slip the end of the band over the "pin." *Your T-square is a compass!* For the rubber band, looping-the-loop as shown, holds both the blade and the head in tight contact with the pivot. And, regardless of the *diameter* of this pivot —use a spool if you can make it stick!—any point on *either* edge of the blade will swing in a true circle: the actual radius of such a circle being an imaginary line from the center of the pivot to the edge of the blade—several radii being indicated in the drawing by way of proof. So—with the T-square harnessed to the "pin"—swing the blade into contact with the pencil held at point *c*, or at point *a* if you prefer. Then shift the pencil-holding hand onto the blade, still holding the pencil in contact therewith at the given point, and swing the T-square about the pivot —the *other* hand, meanwhile, exerting a combined bearing and directing pressure upon the blade and a centrifugal pull on the pivot. If your pencil hand requires "steadying"—put a "rider" on the T-square blade as shown, and, before swinging the arc, bring the pencil into bearing against both the edge of the T-square and the inner edge of this rider. A very few minutes' practice will give you the "hang" of this T-square compass. It is not a makeshift. It's a precise and thoroughly practical instrument. And it's all on account of that ingenious method of "*looping-the-loop.*"



# ADVENTURES OF AN ARCHITECT—II

## MUCH ADO AND NOTHING DOING

*By Rossel E. Mitchell*

AMERICANS PRIDE themselves on being "good sports." A poor loser quickly loses caste also, whether in politics, sports, or business. Americans frequently boast of willingness "to take a sporting chance." As the American nation matures, there will, no doubt, be less chance-taking. Your sophisticate does not gamble—not unless the dice are loaded for him. They are products of an Old-World commercial system which has long ago discarded the element of chance wherever it can be eliminated. Some day, gambling will be a thing of the past in American business. At present, Americans are the greatest gamblers in the world. Lotteries are defunct and horse-racing tabu in most states of the Union. But the great Mississippi Bubble taught nothing to your average American. He never read Washington Irving's gentle admonition, "Don't think real estate will never fall again." Florida "booms" have had their counterpart at varying scale in every section of the country.

However, there are few professions or businesses of vast magnitude and technical nature in which the element of deliberate, known chance enters so largely —one might say, so overwhelmingly—as in the building world. The life of the builder is a gamble from January to December. Under the competitive system of bidding now customary, a builder is compelled to take all sorts of chances. He must gamble his time against that of other bidders to "get the job." He pores over intricate blueprints for days and far into the nights. He spends money also, as overhead, in letter writing, telephoning, and estimators' salaries. His bid when completed is a gamble. He gambles that material will not rise in price, that wages will not go up during the course of the building operation. He bets that no unusual labor conditions will arise, that none of his sub-contractors will go bankrupt, die, or refuse to go on with their work at the price agreed. He gambles that the work can be completed within a certain number of days and bets that the weather will not hinder its completion. Then he frequently agrees to be fined smartly for each day his contract is incomplete after the specified date, and his prospective profit thereby becomes the ultimate gamble.

The more or less dignified practice of architecture is also a gamble. At one time within the memory of middle-aged practitioners, it was more so than a horse race, for the stakes were larger, the element of chance fully as great, and the opportunities for fraud even more abundant.

The following actual instance of an old-time "architectural competition" is neither overdrawn nor unusual, as will be agreed to by hundreds of the profession.

The town of Greengrass decides to build a town hall. An architect is needed, for ideas are scarce articles at best and especially so among city fathers. So Mr. John Sawstuds, a local taxpayer who "draws plans" and erects buildings, is called into consultation. Sawstuds is a thoroughly "practical" builder. He advises the committee that all they need is a square brick affair with a slate roof and a corridor through the middle. There will be a town hall on the second floor and a heating plant in the basement. Nothing could be simpler. He submits a labored pencil "sketch" that supplies "all the room needed."

But there happens to be a doctor, or a lawyer or maybe even such a rarity as a cultivated merchant on the Board, who is not satisfied with Sawstuds' sketch. He has the temerity to suggest that the proposed building might give plenty of room, but would certainly look like a barn. And since this is to be a public building, it ought to be of handsome appearance.

So it is decided to hold a competition. Architects from neighboring towns are invited to "submit sketches," also a young local architect. The latter is not a taxpayer of moment and therefore does not carry much weight with the city fathers. But he and others are invited and the scramble begins. A day is appointed on which each man will be given a chance to present his credentials and sketches, and try to persuade the committee that he is best qualified to do the work. Sawstuds also gets busy. He has been privately informed that the committee members, or most of them, want him to do the work. Public sentiment demands a competition. So Sawstuds hastens off to some nearby town where he knows of a draftsman who works "on the side" for contractors, although drawing a substantial salary from his architect-employer. Sawstuds has all the information, and the draftsman whips it into shape.

The committee receives what it considers an impertinent letter from a firm of architects in the nearest city, who were invited to compete. The committee is informed that its methods of holding a competition are contrary to architectural ethics, unfair to competitors, and calculated to get a very poor result for the Owner. It is advised that an architectural competition is altogether too technical a matter for a committee of laymen to pass upon. That if said committee were competent to judge such a matter an architect would not be needed at all, and that if members of the committee were not themselves architects it would be impossible for them to pass upon the relative merits of various plans, all of which might have genuine merit, but some of which, however attractive to the eye, might possess serious and far-reaching faults, not apparent to anyone except an expert.

The committee is informed of means whereby a competition, if considered necessary, may be held in

such a way as to be fair to the competitors and valuable to the Owners, who happen to be the taxpayers. Also that unless a competition is the only possible method of procedure, the best thing the committee can do is to pick out a competent architect and let him give the problem the painstaking study it deserves.

This letter does not set well with the friends of Sawstuds on the committee. They resent the implication that they are ignorant of architecture. "I know what I like," booms a big dairyman. And "I guess we know what we want," pipes up the popular apothecary member.

But the more thoughtful one who suggested a competition now makes further observations. He thinks the big firm was right; a competition ought to be fair. The drawings should be unsigned, and the names of the competitor put in a blank envelope. The friends of Sawstuds oppose this, but are finally won over. The big dairyman has just had a barn built by Sawstuds, and still owes him money. He thinks the matter can be "handled" all right.

So the great day arrives, and at the appointed hour there is much buzzing and whispering. The committee is seated at a raised bench, and the architects come in one by one. Several young men display elaborate and painstaking drawings, well conceived and beautifully executed. They recite their experience and qualifications with reasonable modesty and restraint.

A representative of the city firm appears, without drawings, and makes a business proposition for conducting the building enterprise. Sawstuds' friends give him the cold shoulder, and he is informed that his proposition will be given due consideration.

Finally Sawstuds is asked to appear, last but not least. His talk and ramblings consume an hour, and can be summed up in four words, "You know me, Al."

Then the committee goes into executive session and examines the "unsigned" drawings. Each set has an emblem, the duplicate of which is to be found inside the opaque envelope. After all have been seen, one committeeman opines that "they all look pretty good, but the *Cloverleaf* set looks best to him."

Another committeeman squints dazedly at the costly products of professional brains and training, and says, "Dogged if that Cloverleaf don't look good to me too." A third follows and a fourth. "How beautiful it is for brethren to dwell together in unity!" Every man jack friendly to Sawstuds favors the Cloverleaf! The opposition man rather prefers another. In fact, he thinks the Cloverleaf about the poorest design submitted. He calls attention to a particularly beautiful façade that seems to have been overlooked. "Very pretty," says a Sawstuds man, "but I like this plan better; maybe we could get this plan and that outside!" Finally a vote is taken. Four to one for Cloverleaf! The accompanying envelope is opened and lo! John Sawstuds is the winner! Everybody is happy that such a reliable local man is to do the job. The announcement is deferred for an hour or two "for the sake of appearances." The young architects depart crestfallen, and sigh for better luck next time. Sawstuds is not even to be found. That night at the lodge the big dairyman draws Sawstuds aside.

"Well, old top, I want to congratulate you."

"Thanks, Bill, and I want to thank all you fellows. I'll give you a real job."

"Sure. Ain't I been scrapping for you from the first? By the way. You know I've been carrying that four-leaf clover you gave me in my pocketbook. You'd better take it. Put it in the family album. Maybe you'll need it again some time, eh?"

After all, life itself is a gamble with the dice often loaded against one. It has been a cause of wonderment and thought to many an architect and many a builder whether or not the extreme uncertainty of the building business is not one of the compelling reasons why men who enter it continue in it a lifetime. Rarely does a man become an architect or builder and have any further liking for other work.

The alluring stakes of big operations he may secure; the pride of accomplishing tangible and enduring results; the constantly changing problems that challenge his effort and tax his ingenuity; the pride of overcoming severe difficulties—even the heart-breaking disappointments—all combine to "get" a man who once becomes a part of the great construction industry.

My own first great gamble came in less than six months after I had hung out my shingle as a practicing architect. The stake was a big one for those days, and for the small city I had started out to improve with my architectural ideas. An institutional building was projected, and a "drive" successfully put on for funds. Several architects contributed, among them myself. The building committee, therefore, believed a competition the proper method to secure the services of an architect. They were high class men and determined to have things done decently and in order.

A nationally known architect was retained as adviser. A careful "program" was prepared, and every safeguard taken to insure fairness. Eight architects were invited, six local and two from large Eastern cities. The drawings were to be submitted by a certain date, and the decision made under the advice of the technical adviser. The winner would receive the commission to design and supervise a fine, large building, and incidentally be brought prominently before the entire business and professional public. I determined to leave no stone unturned toward winning that competition.

I realized this was to be a real scrap. Architects with large office organizations and a lifetime of experience were my competitors. The problem was an exceedingly difficult one, due to the selection of a site altogether inadequate for the purpose. During the campaign for funds I had given the problem much thought, knowing it was sure to come up in some form or other. My next step was decisive. Securing a list of the latest and most modern buildings of a similar nature that had been recently erected or were nearing completion, I took to the

Pullmans and went on a tour of first-hand inspection to see exactly how the other man had solved the problem.

Having sucked up some large gobs of information, the next step was to secure one or two capable draftsmen to help in the preparation of the drawings. This accomplished, we set to it with a will. For days we sketched, studied and figured. At last the scheme developed. We felt we had arrived. The next course was to prepare the final drawings, and the time was now short. Closing hours were forgotten and we worked from 9 a. m. until 12 midnight. Three days before the competition closed we kept at it until 2 in the morning. The next night we worked until 3 a. m. and the final night we continued on through without a break except to snatch some lunch. We delivered the drawings at 9:30 a. m., the time set, and went home to catch up sleep.

During the ten days of uncertainty that followed I busied myself with other matters to avoid anxiety. Finally, when I had about concluded to forget the competition, a telephone call advised me of the great news of my selection as architect for the institution. It may appear strange that I did not feel greatly elated, but my study of the problem had already demonstrated to my own mind the extreme difficulty of building satisfactorily on the site selected. Events proved the wisdom of these observations. The building was pronounced a complete success by the building committee when finished. For a year or two I was the object of frequent congratulations for doing a fine work. Thereafter the structure rapidly became too small for the increasing demands put on it, and for many years I had the unpleasant experience of being blamed for erecting inadequate facilities, on a site where space was figured for use, not on a basis of the square foot, but more than once by the square inch!

The managing director died, and the new director, a fine fellow with big ideas, looked condescendingly on the work of his predecessor. There is a national committee which is usually consulted about such buildings and this building was no exception. They examined the plans, approved the arrangement and, when the building was finished, pronounced it the most modern, complete, and efficient building for the purpose yet erected in the United States. The personnel of this committee changed with the years. The building becoming greatly outgrown, complaints were made constantly by managers.

Once I was about to be retained as architect for a committee contemplating the erection of a building for a similar institution in another city. I referred to this structure and to the members of the building committee who were conversant with the problems which had been met and overcome.

They gave me a flattering endorsement. But the manager of this institution preferred another architect. He got into touch with the national committee, whose changed personnel knew nothing of the conditions governing the erection of my other structure. They pronounced my building "Everything an institution of that nature should not be." I lost the job. Soliciting an explanation for the action of the national committee, I could get no satisfaction except that "It was so utterly inadequate!"

PEN AND INK SKETCH BY IVAN NATCHUK

"NEGRO COTTAGE"

PLATE XLV

VOLUME X NUMBER 12

*This masterly wood block print, the original of which was printed in black and gray from two blocks, measures 10¾" x 17½". The gray block was used for the sky; the remainder was in black. We are enabled to reproduce it here through the courtesy of Francis Keally. Another woodcut by M. Chalandre was reproduced in our issue of April, 1929.*

FROM A WOODCUT BY F. CHALANDRE

A VIEW OF NEVERS CATHEDRAL

UNIV. OF MICH.

PLATE XLVI

VOLUME X NUMBER 12

*This drawing by Mr. Born is of the Soldiers' and Sailors' Memorial Bridge at Harrisburg, Pennsylvania. It was made practically entirely on the spot with a black crayon on smooth white Strathmore paper and is one of a series of the Bridge which Mr. Born made for the architects, Messrs. Gehron and Ross. The original drawing measures 21" x 28".*

UNIV. OF MICH.

A BLACK CRAYON DRAWING BY ERNEST BORN

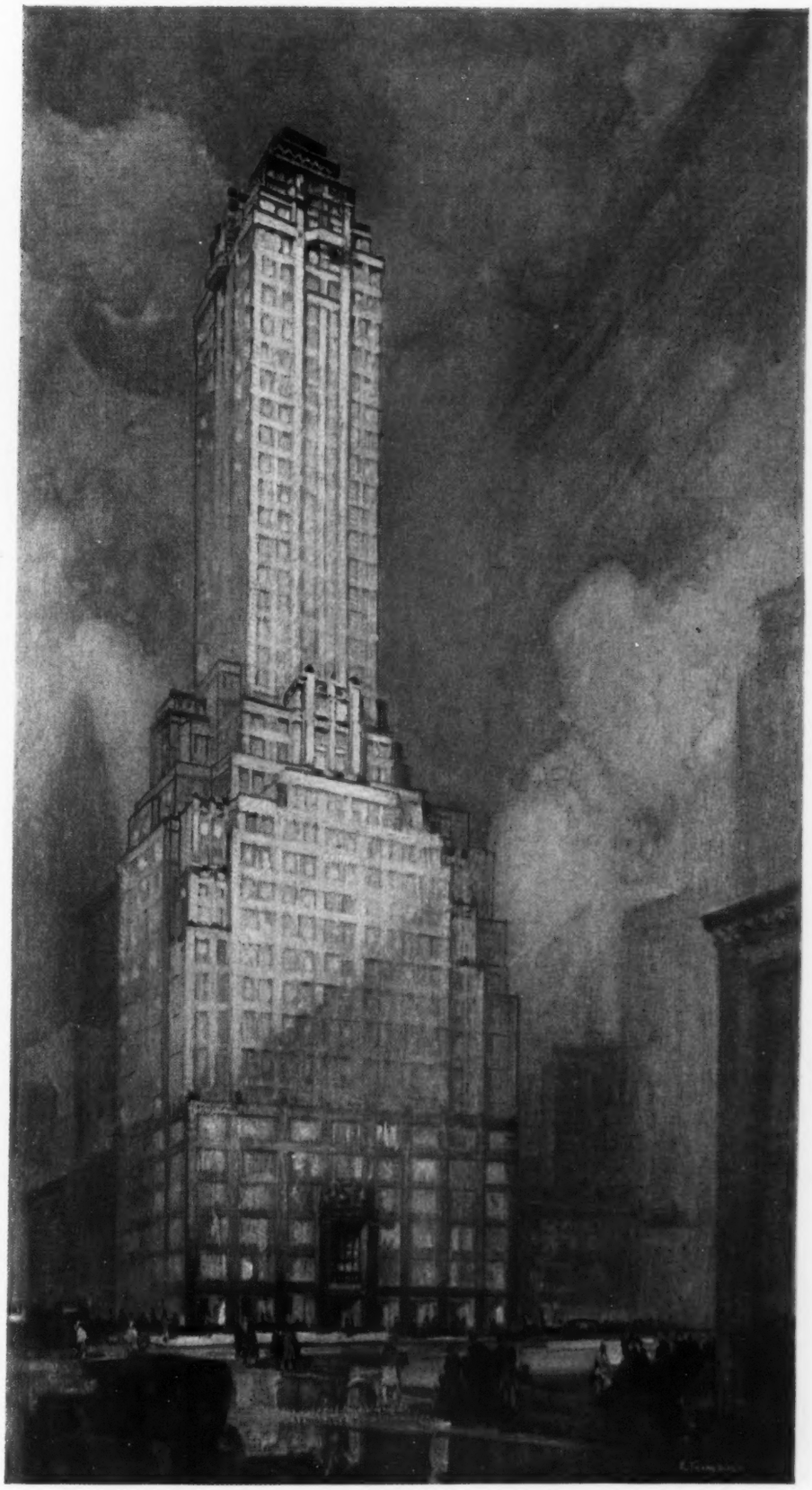
"SOLDIERS' AND SAILORS' MEMORIAL BRIDGE"—UNDER CONSTRUCTION—HARRISBURG, PENNSYLVANIA

# PENCIL POINTS SERIES
*of*
# COLOR PLATES

*This drawing by Alfred E. Floegel is reproduced at a slight reduction from the size at which it was drawn (the original measured 8⅝" x 8⅞") to illustrate the technique used in rendering stained glass. The subject is a portion of a mediæval window at Le Mans Cathedral. The whole design was first copied very carefully in pencil on a sheet of white illustrators' board, the work being done directly from the original glass. The lead lines were then inked in with India ink. Again working direct from the window the color was applied with transparent water colors, the modeling of each piece of glass being copied exactly from the original. The whole drawing was finally lightly coated with shellac which enriched the color and gave it depth. The effect of the shellac was allowed for by the artist when he was applying the color so that the final result would be as true as possible a reproduction of the glass colors.*

PORTION OF A STAINED GLASS WINDOW AT LE MANS

FROM A WATER COLOR DRAWING BY ALFRED E. FLOEGEL



FULLER BUILDING, NEW YORK—WALKER AND GILLETTE, ARCHITECTS

FROM AN OIL PAINTING BY EDWARD TRUMBULL

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# PENCIL POINTS SERIES
*of*
# COLOR PLATES

*A perspective sketch of the Fuller Building, shown on the other side of this sheet, was given to Mr. Trumbull by the architects. Before making this painting, the artist submitted four pastel sketches to Messrs. Walker and Gillette to show the proposed color scheme for his rendering. The painting was then worked up from the sketch selected on a canvas approximately 3½′ x 5′, and was made for the architects' client for advertising purposes.*

*The building, which has recently been completed at Madison Avenue and Fifty-seventh Street, New York, is of white stone with black trim, and stands as a memorial to George A. Fuller, founder of the George A. Fuller Company.*

*Courtesy of Kennedy and Co.*

FROM AN AQUATINT BY GERALD K. GEERLINGS

"BLACK MAGIC"

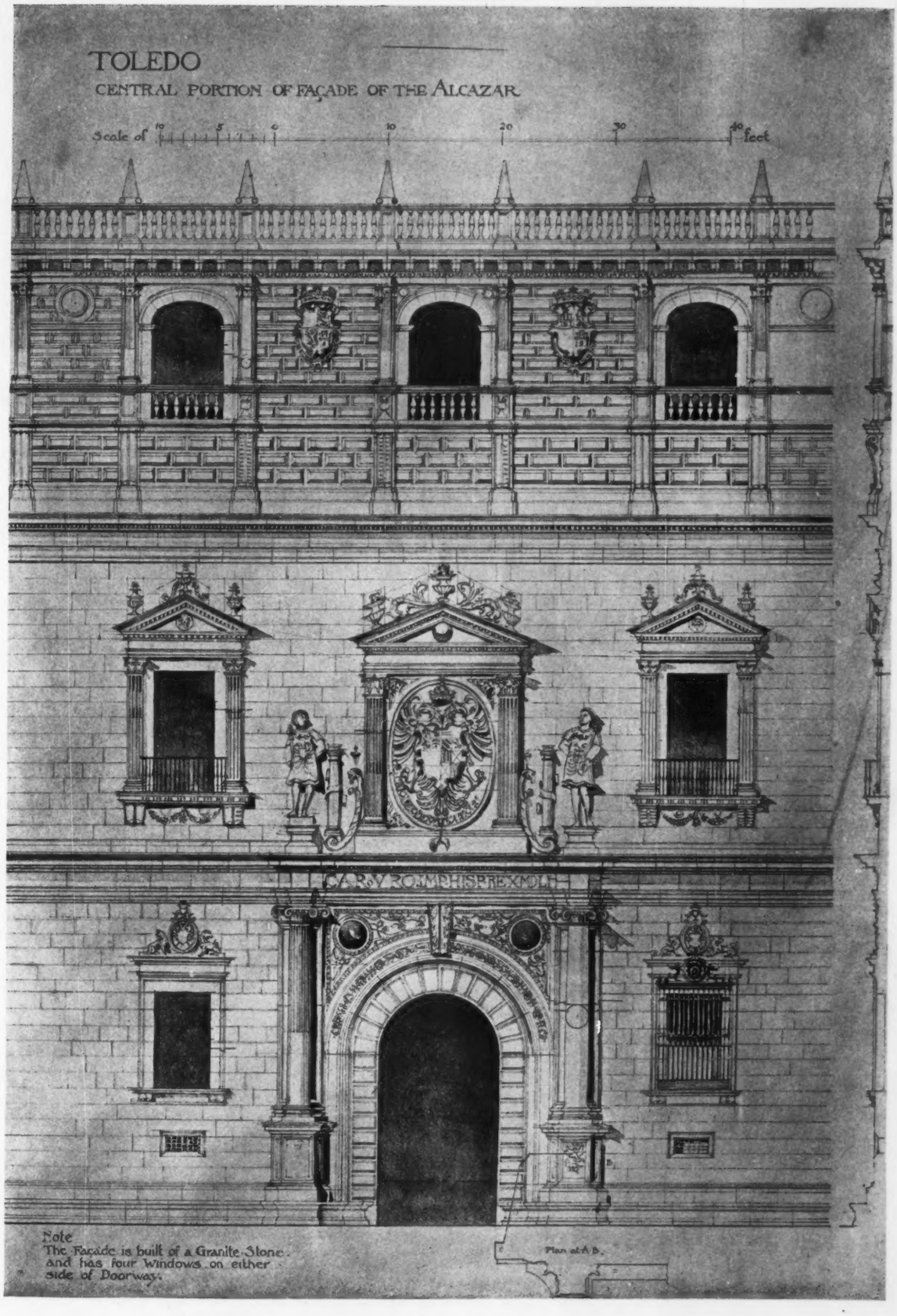


UNIV. OF MICH.

PLATE XLVII

VOLUME X NUMBER 12

*We are pleased to present here an aquatint by Gerald K. Geerlings who is well known to the readers of* PENCIL POINTS *through his articles on wrought iron and bronze and through various sketches which we have published in the past. Mr. Geerlings has just returned from abroad, where he has been studying etching and drypointing at the Royal College of Art under Malcolm Osborne, R.A. This particular print was hung at the Royal Academy show in 1929 and a copy of it was purchased by the Victoria and Albert Museum in London. The size of the original was 6½" x 11¾".*


TOLEDO
CENTRAL PORTION OF FAÇADE OF THE ALCAZAR
Scale of 10 5 0 10 20 30 40 feet
Note
The Façade is built of a Granite Stone
and has four Windows on either
side of Doorway.
Plan at A B.

RENAISSANCE ARCHITECTURE AND ORNAMENT IN SPAIN

A PLATE FROM THE WORK BY ANDREW N. PRENTICE



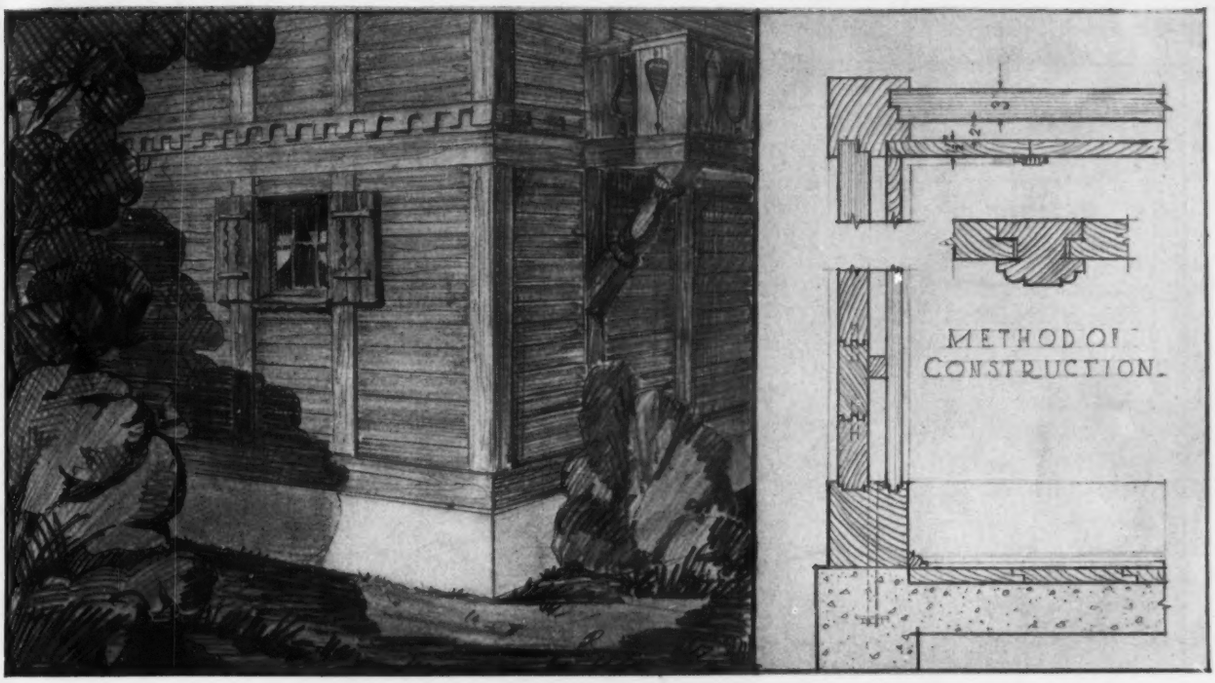
UNIV. OF MICH.

PLATE XLVIII

VOLUME X NUMBER 12

*"Charles V. decided in 1537 to make the Alcazar into a Royal Palace for himself, and chose as architect Alonso de Covarrubias, who designed the beautiful façade which forms the subject of this plate. The front is constructed of a species of granite, forming a new face to the old walls, which at the entrance are ten feet thick. The doorway, though designed by Covarrubias, was carried out by Henrique de Egas. In the shield over the doorway are the arms of Charles V., surmounted by the Austrian eagles with the pillars of Hercules on either side. For the last ten years the Alcazar has been undergoing restoration on fireproof principles, being intended as headquarters for the Military School, which at present is located in the Hospital of the Holy Cross."*

A. N. PRENTICE.




A SKETCH AND CONSTRUCTION DETAIL DRAWN BY THE AUTHOR

# THE SWISS CHALET

*By Jack Paterson*

PROBABLY NO HUMAN habitation has met so well the needs of its inhabitants or suited so well its location as has the Swiss chalet. We go to Switzerland for various reasons—health, recreation, education and in more than one case to study its architecture. And most of us return impressed by the craftsmanship and sound architectural methods employed by their builders of two and three hundred years ago.

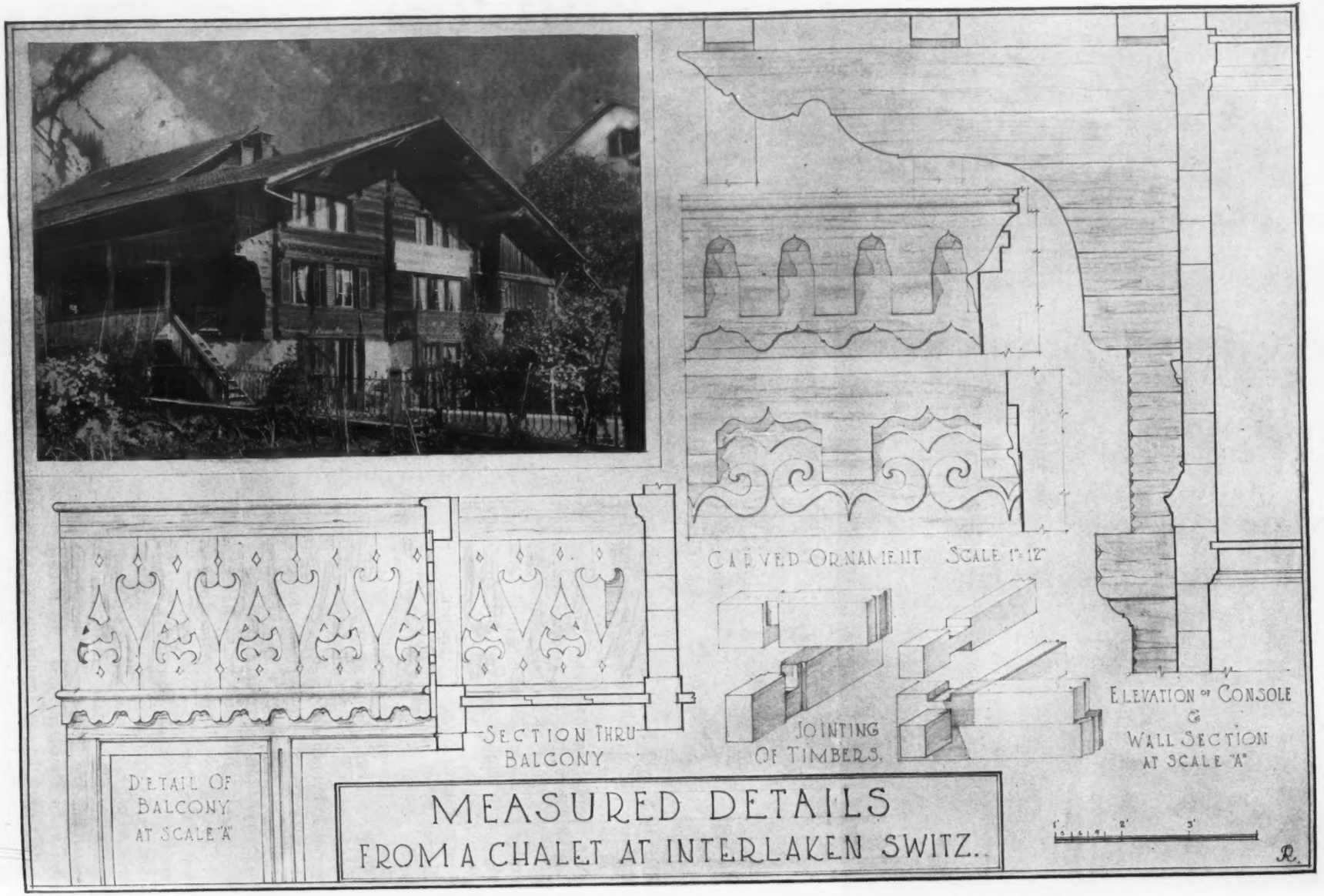
I went to France during the summer of 1928 from the University of Washington, at Seattle, on a scholarship offered by the West Coast Lumbermen's Association. The program outlined in the scholarship called for some original research on the chalets of Switzerland as a termination of the summer spent studying at Fontainebleau, France.

This article presents my personal observations, and information on the chalet I gathered from others who have made a more extended study of this type of architecture. It is illustrated with a number of drawings and photographs I made while studying various examples of the chalet.

I left Paris one Sunday morning in late September for Lausanne, Switzerland, and arrived at Vallorbe on the Swiss border about four o'clock in the afternoon. The railroad station made me really feel that I was in Switzerland for it had marked chalet character, though done in a modern spirit. From Vallorbe we rose slightly over the low mountains and then gradually swung around into a long series of switchbacks that brought us, through green pastures, down to Lake Geneva.

My first real introduction to the chalet came the next afternoon at Montreux, a short way down the lake from Lausanne. The mountains of the Bernese Oberland rise steeply behind Montreux and the slopes are covered with castles and chalets. The chalets of Montreux are gay little things all covered with florid carvings and bright awnings. They certainly belong to the flamboyant period of chalet styles. In order to study the true character of the Swiss chalet, however, the Bernese Oberland must be visited, so from Montreux I took the train to Gstad, a little town in the heart of the Oberland. At Gstad I saw the chalet in what, to me, is its most virile and picturesque character.

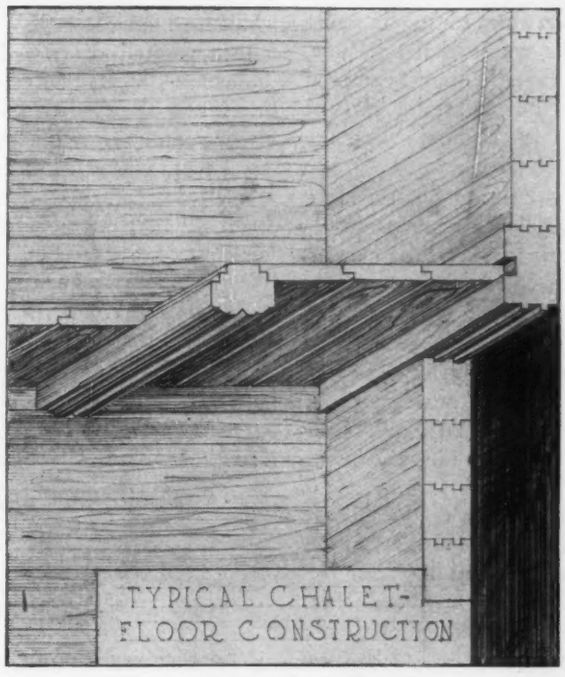
Bright and early the morning after my arrival in Gstad I took my pack sack full of sketching material and a camera and set out. Every house in the town of Gstad is a chalet more or less and I was overcome by their very profusion; so out I set for the country around. A short distance outside of Gstad I found what I was looking for, a little group of chalets upon a hillside with a road curling up and around a few pine trees. The air was fresh, the ground still hard with the frost of the night before, and the pines of the bluest green. The Alpine sunlight was clear and getting warmer, certainly a situation for viewing the chalet under the most ideal conditions. Up I went, following the road. As I rounded the bend and stood in the shade of the pines, there across the road, clinging with its back to a sharp rise of the hillside, was a chalet. Picture the bright yellow green of an Alpine pasture, the warmest of burnt siennas, the natural


CARVED ORNAMENT SCALE 1"=12"
SECTION THRU BALCONY
DETAIL OF BALCONY AT SCALE "A"
JOINTING OF TIMBERS.
ELEVATION OF CONSOLE & WALL SECTION AT SCALE "A"
MEASURED DETAILS
FROM A CHALET AT INTERLAKEN SWITZ.

A CHALET AT INTERLAKEN, SWITZERLAND—PHOTOGRAPH AND MEASURED DETAILS BY JACK PATERSON

wood color of a chalet, the emerald green of the shuttered windows, Alpine sunlight warming the frosty air and the mellow music of cowbells coming from far and near. Could anything more be needed to make one feel that the chalet with its gracious roof shading like a hat the warmly colored façade is indeed a part of the landscape, an integral feature of its setting? It is certain that I will never think of a chalet without visualizing that particular time, place, and color though I can not remember seeing any chalet that did not similarly harmonize with its surroundings. For instance, the chalets on exposed and weather-beaten hillsides with outcroppings of gray shale are rugged and weather-beaten, too. For every warm and beautiful chalet or village of chalets you can find a counterpart in gray, wind-swept chalets that express a crueler, harder life than that of the sheltered valleys.

Swiss forests are composed mostly of red and white pine, and it is the red pine that gives the chalet such a marvelous reddish brown color that is the delight of everyone who beholds it. Red pine takes this color after a short exposure to the weather, and nothing, it seems to me, goes better with the blue-green forests and yellow-green of Alpine pastures than a red pine chalet, made warmer still by the penetrating brilliancy of Alpine sunlight.




DETAIL OF FLOOR CONSTRUCTION
DRAWN BY THE AUTHOR

What are the admirable features, architecturally, of the Swiss chalet? Perhaps we could, for our purposes, list these features as honest, sturdy construction, a certain grace and beauty of ornamentation and, finally, an appropriateness, the real character necessary to a structure of wood, placed in surroundings that call for naturalness and strength.

Just how the chalet came to its present stage of development is very interesting history. Its prototype is in man's primitive dwellings of wood. Wherever wood was plentiful, from the Himalaya Highlands to the Swiss Oberland, we find that man's early efforts at housing himself and his possessions were curiously alike. Lest India and Switzerland seem far from home we must remember that our own log cabin belongs to the chalet family.

Why is there such a similarity between these dwellings of wood? Because they were all trying to solve similar problems with the same material. Thus if we examine the principal structural features of the chalet we find real reasons for everything that was done. The Oberland chalet is built on a rubble masonry foundation that generally is raised to a height of five or six feet. Why: to raise the wood above the heavy blanket of snow that covers the ground during the winter. The walls are laid up of heavy timbers interlocking at every intersection. Why? Remember how a log cabin is laid up? It is the primitive and sound method of building a wood wall. The roof of a chalet is supported by heavy timbers. It is broad, flat-pitched, and has heavy overhanging eaves well supported by brackets or consoles. Why? Because some time in man's development he learned that snow was a good insulator. That roof will hold a whole winter's collection of snow, keeping those within warm when all outside is white and cold, and at the same time, because of the distance it projects, protecting the walls from the winter storms.

Let us get a clear mental picture of the chalet before dealing with its detailed structure. Think of it as a rectangular box, the interior of which is broken up into rooms by walls and floors which firmly interlock with the exterior walls, thus forming a perfectly rigid structure. The boxlike structure is capped by a rather flat-pitched roof whose generous projection is supported by huge consoles formed by corbeling out the upper members of the lateral walls. The interior walls of the chalet are expressed by allowing the beam ends to project beyond the exterior wall surface, and it is the interior walls of the top story that one sees as supporting consoles for the roof projection. Another chalet element is obtained when the floor beams are projected some distance, carrying a balcony. In addition to the balcony, the invariable dentil-like band of ornament occurring at the different floor levels helps to express the structure.

With this picture in mind we can now trace the various phases of chalet construction. When a family determined to build a chalet they consulted a master carpenter and he planned to suit their needs. Then neighbors were gathered and the timber provided and everyone set to work under the direction of the master carpenter. First a shallow excavation was made, then a rubble masonry wall was laid up to a height sufficient for a basement. The construction of the chalet wall did not differ materially from that of the log cabin. Base timbers, frequently as large as 10″ x 14″, were laid on the masonry foundation. These were interlocked with each other and were firmly anchored to the foundation wall. Then on

these base timbers were laid the wall timbers, one on top of the other, until the floor above was reached, leaving, of course, the openings for doors and windows. These timbers were notched to one-quarter their depth on both top and bottom sides and were grooved the whole length so that when laid up a solid and airtight wall was formed. Each beam was pegged down at intervals of three feet to the one beneath it as an added factor of strength. As the floor level above was reached a heavier beam was laid on the wall and this beam had generally a great deal of carving on it. The inside face of the floor beam, as I will call it, was grooved to take the floor boards.

The floor of the chalet is very interesting in itself and quite in character with the whole chalet scheme. There are several floor systems—the most common being a pan system. The floor boards are let into the beams as may be seen in the illustration showing the general construction of the floor on page 861.

The ceiling of the chalet is nothing but the floor viewed from below and this makes a beautiful ceiling when the boards and beams are richly carved, as they not infrequently are.

Before discussing the chalet roof I would like to say a few words about a rather different type of wall construction, more modern but typically Swiss nevertheless. Here the wall is of two thicknesses with an air space between. The outside is built of plank about three inches thick and laid up much as the other wall is except that at the corners and at intervals of about eight or ten feet a vertical is introduced, the horizontal pieces being let into the vertical. The inside is in the form of vertical paneling that is blocked out from the outside wall, leaving an air space of some two inches. Very beautiful interior effects are obtained with the paneling. Outside of this difference in wall construction there is not much change in the other chalet motifs. The sketch on page 859, of the corner of a chalet done in this style, will explain the effect obtained.

The crowning glory of the chalet is the roof, a flat-pitched affair with eaves that often have a projection of six to nine feet. This projection is carried either by consoles or brackets. The consoles were formed by corbeling out the lateral walls, which were built up till they took the place of rafters. This method of carrying the roof was typical of the Oberland chalet and due to its wonderful supporting ability the roof can carry tons of snow through the winter. When the bracket method of supporting the eaves was used the Swiss, instead of corbeling out the walls, cut them flush and substituted an ornately carved brace. The chalet roof covering is generally large slate shingles that are tied down by heavy slats. Where there are severe gales in the winter the roof is weighted down still more by big pieces of rock or shale which are kept in place by the slats. The chimney in the older chalets was merely an opening in the roof built up several feet, with a flat cover attached to a lever, by which it was raised or lowered. In olden times all cooking was done over an open fire so that this type of chimney was necessary to carry off the smoke. Since the introduction of the stove the chimneys of the Swiss chalets have developed —beautiful little bird-house effects that go very well with the pine tree entourage so common to the chalet.

Here, then, we have the chalet a solidly built home which satisfies the requirements imposed by its location and the rigor of the climate. The chalet, however, did more than this. It was the outlet for whatever æsthetic feelings the Swiss felt, for the religious fervor of the times, for poetry and philosophy. And this leads us logically to a discussion of the ornament of the chalet.

One of the interesting and most characteristic of chalet ornaments is the inscription. Inscriptions are either painted or carved and are generally of two kinds: one, located between the roof and the last story, indicating the date of construction, the names of the owners and the name of the master carpenter; and the other, placed between the stories, being religious quotations, poetry or general philosophizing. These exterior inscriptions seem to apply to the Protestant districts of Switzerland, for in the Catholic districts they are more frequently inside. The earliest inscriptions were in Roman lettering, but later—about 1739 —all of the inscriptions were in German script.

Walter Larden in his book on Swiss inscriptions quotes several which are particularly appropriate for an architect to have carved over his front door. One, from a house in Wattsfluh, dated 1752, is:

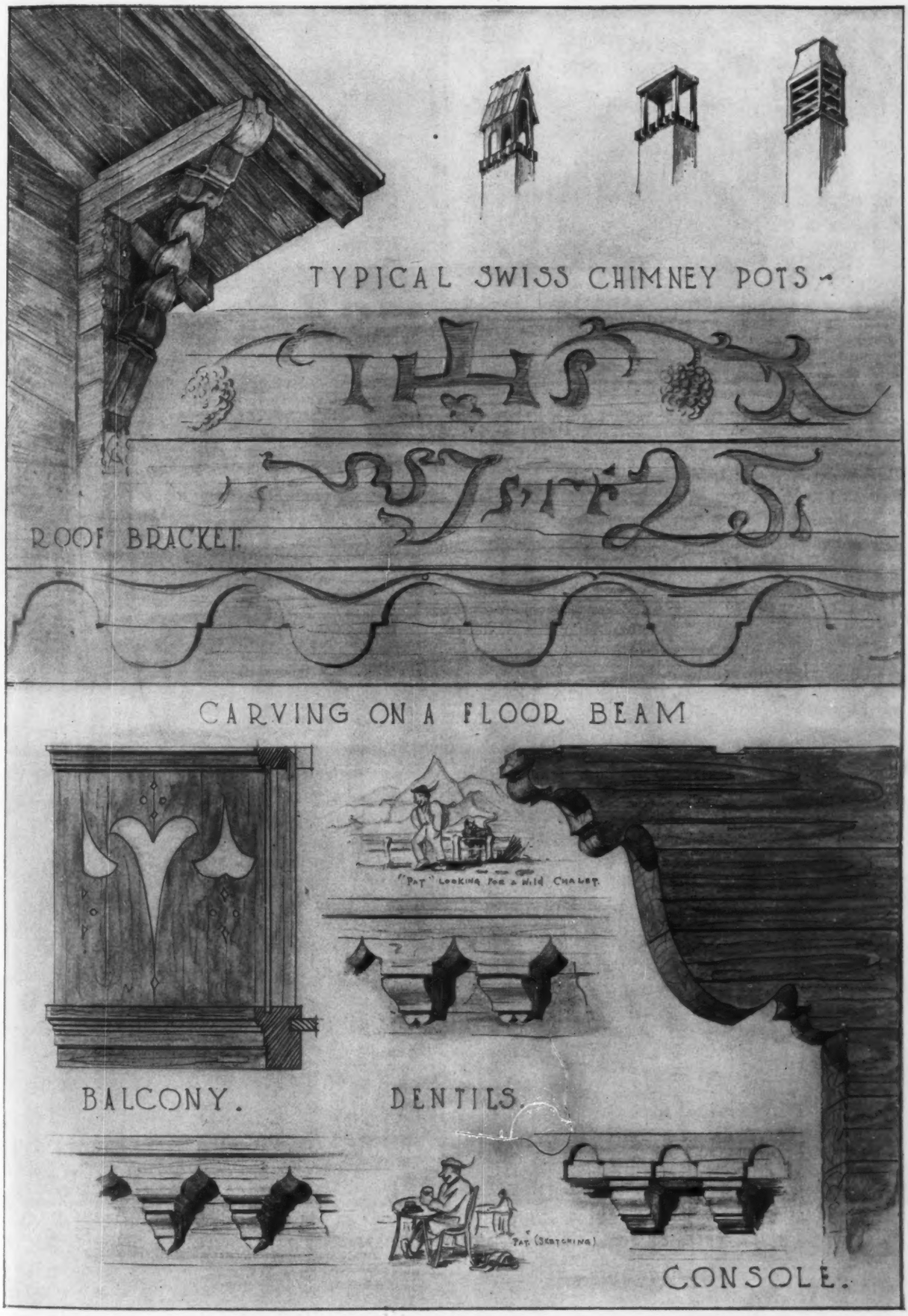
> "There lives no man so wise or experienced that he can build so as to please everyone. Though he do his very best, the world lays it not to his credit. But he who trusts God has built wisely and soundly."

Another variation of the same theme is:

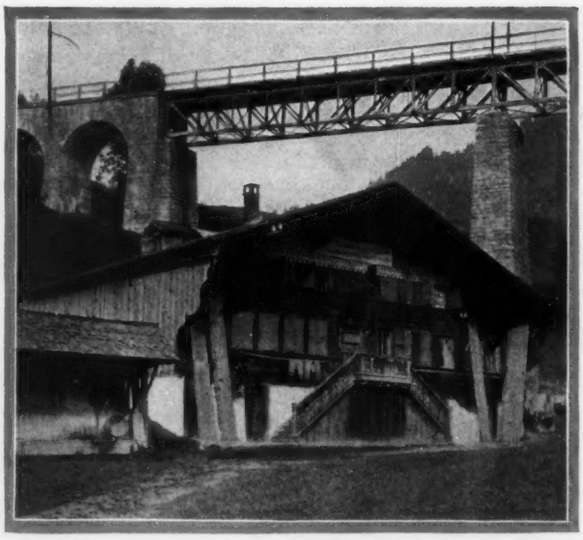
> "Who builds to face the public roads must let the people talk (i.e. criticize the house). Melchior Leimen and Barbra Zuback. 1741."

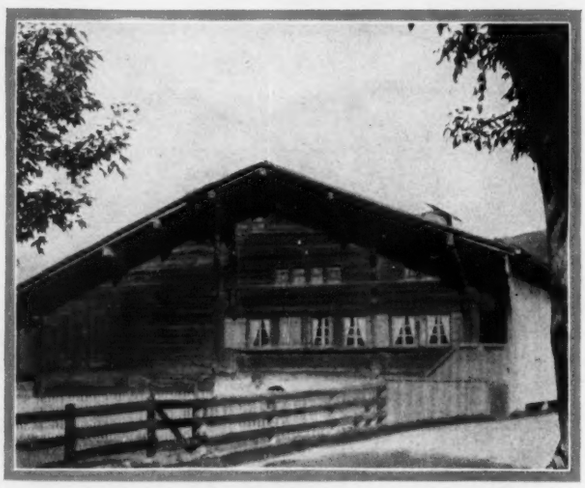
These carved and painted inscriptions are very decorative, the flowing lines and flowery curves of German script providing a fine outlet for the sense of rhythm and design of the Swiss workman. However, the very character of the script so desirable from the standpoint of art has made it almost impossible to decipher the meaning of many of the inscriptions, and this is further hindered by the old dialects of German in use by the Swiss at that time, and also by a more modern and reprehensible custom of scrubbing down the walls of the chalet with pumice stone, soap, and water.

One of the admirable features of chalet ornament is that whether it be carved or painted inscriptions, consoles or brackets, carved floor beams, balconies or any of the numerous bands of carved ornament, one and all are expressive of the structure, and are neither trivial nor forced in character. A fair idea of typical chalet motifs may be derived from the measured drawing and the page of details (see pages 860 and 863), though it must be borne in mind that the




TYPICAL DETAILS OF A SWISS CHALET—DRAWN BY JACK PATERSON





EXAMPLES OF SWISS CHALETS FROM PHOTOGRAPHS BY JACK PATERSON

variety of ornament is almost limitless, as each chalet is more or less the expression of someone's individual taste.

Practically all of the chalet ornament was carved on the timber while still on the ground. Much of the intricate carving was done with the crudest tools, out of the solid timber, and we can only stand in wonder before the work of these master craftsmen. Certainly their homes were works of love and neither time nor effort was spared to make them as beautiful and as durable as humanly possible; they were done in a simpler, homelier, and more pious age, when to build on the shifting sands was contrary to the conceptions of a God-fearing people.

The chalets of Switzerland were produced in an age of craftsmen. They are undoubtedly the product of their age and any literal transplanting of the chalet out of its surroundings, or its period, or its traditions, would not only be as unsuccessful but, in its way, as expensive as transplanting the medieval cathedral with all of its Middle-age ornamentation and craftsmanship. But just as the structure, the ornament and the character of the Cathedral at Chartres is an inspiration to us, so can these little Swiss chalets in their purity of style, in their honest construction and delightful character inspire us to make our modern house of wood have something of a like quality.

There is many a hillside lot in the city whose natural beauty and opportunity for something unique in the way of a house is neglected for lack of a style, for lack of some special architectural character that belongs there. There are country residences where something of the chalet's stability and harmony with its surroundings would be admirably suitable. In the many parts of the country where summer homes, camps and hunting lodges in the mountains are popular, there is an opportunity for adapting the Old World chalet, or the American log cabin, into an architecture that is appropriate, practical and beautiful; that is, a New World chalet.

The chalet offers many suggestions which have the justification of honesty for an interesting wood technique in the small house. The balcony with its pierced wood ornament is easy to construct and is, moreover, beautiful. This same thought can be applied to window boxes. Inscriptions, or ornament, are easily made in these days of sand-etching, and that offers everyone a chance for individuality in his house; he can praise his God or philosophize, whichever he pleases.

There are characteristic chimney tops made of tile or cinder concrete which add to chalet character. It seems to me that there is no feature that harmonizes better with its typical entourage than these bird-cage chimney tops.

Wishing to determine just how practical it would be, from the standpoint of cost, to construct the Swiss chalet type of dwelling in the United States, I obtained figures on the additional lumber cost for such a house. The cost of all the wood in the average modern wood-sided frame construction home, I learned, amounts to about 10 per cent of the total bill. About 20 per cent more lumber would be called for in the chalet type. This would increase the total cost over ordinary frame construction approximately two per cent. The greater durability, distinctiveness and other merits of the chalet construction, it seems to me, would more than compensate for the additional cost.

In concluding, I wish to express my appreciation of the friendliness of the Swiss people, particularly those who so willingly helped me in my research on the chalet, the courtesy and consideration shown me by the Chalet Fabrique at Interlaken, Switzerland, and again to thank the West Coast Lumbermen's Association for providing the scholarship, without which this study would not have been undertaken.

# Just what does an ARCHITECT do for his CLIENT?

The services of a present-day architect are commonly divided into five stages. These are often called the five fundamental functions of an architect and are described as follows:

**1** "PRELIMINARY STUDIES", which are really the diagnosis of the building problem, proceed first with the careful questioning of the client as to that which he wishes to accomplish. In this study the architect must be sufficiently familiar with human desire to read between spoken words the unexpressed wish.

And to these wishes he must add those things which his own skill and experience dictate as essential to the full, up-to-date solution of the client's problem, such as location of rooms to assure convenience and comfort, straight-line routing of materials in industrial buildings, etc.

In studying these problems the architect must also consider site conditions, present and future land values, relationship to transportation, adjoining property conditions, public utilities including sewerage, gas, water, heat, electricity, etc.

After the plan scheme is worked out, the architect must then design a building dress that shall be a logical interpretation of the plan—pleasing in aspect, harmonious in color combination, and at a cost appropriate to character of use and neighborhood standards.

The architect next prepares an approximate estimate of cost. This is based on floor areas, volume and similar tentative factors. No accurate estimate can be made until working drawings and specifications determine actual quantities of material and labor.

At this point the architect consults with the client as to whether he wishes to proceed with the original scheme as outlined, or if it should be modified to reduce cost, or to increase efficiency or ornamentation. Should changes be desired, they are worked out in preliminary form and a new approximate estimate prepared.

NOTE: Standard forms of agreement between the architect and his client provide that "Preliminary Studies" shall be modified and remodified by the architect until the client's problems have been solved. During this period the client may, within reason, change his mind as to a given project as many times as he desires, and without involving himself in extra expense. This "Preliminary Study" work usually represents about one-fifth of the architect's complete service.

**2** "WORKING DRAWINGS" to scale are now made up. In this second important function of an architect, he prepares drawings which

indicate sizes of parts, designation of materials, etc.

NOTE: On this work the architect employs numbers of draftsmen and engineers, and salaries and material expense, as well as chances of error, are so great that marked changes cannot be made except at extra cost to the client. Since "Working Drawings" are perfected in a sort of evolutionary process, to disturb the regular continuity of office program very greatly increases the chances of duplications, omissions, or miscalculations. It is best for the client to make haste slowly on the preliminary design, then leave the "Working Drawings" severely alone. "Working Drawings" represent about three-tenths of an architect's entire service.

3 "SPECIFICATIONS," carefully worded and covering all items of information not set forth in the drawings, is the next task of the architect. Before writing these specifications he must review catalogs of materials, inspect and test samples of materials and devices, interview salesmen and compare market prices, determine what is best suited for the job, and act throughout as the client's purchasing agent.

NOTE: Before a building is completed and furnished ready for use 25 or more contracts are usually let. And as five bids are commonly required on each contract, 125 or more interviews are necessary. Upon receipt of the bids by the architect they must be opened, read and tabulated—a task that often involves several days' work. "Specifications" commonly represent about one-tenth of the total work of the architect.

4 "SCALE AND FULL-SIZED DETAILS" of the work are then prepared by the architect. These include all the necessary supplementary drawings required to enable the builder to so provide and shape his material that it may be placed in the building with minimum delay and chances for error.

NOTE: In this process of detailing the architect considers the best methods of assembling parts to avoid the evil effects of shrinking and swelling, easy motion of moving parts, water-proof and dust-tight qualities, etc. In these drawings, too, he gives particular attention to details of carved ornament, etc., which assure the beauty of the building. Correct details not only reduce cost of construction, but greatly increase the comfort and convenience of the building. "Details" represent about one-tenth of the total work of the architect.

5 "GENERAL SUPERVISION OF THE WORK" is the fifth and final step. This consists of drawing properly-worded construction contracts between the owner and contractor, also such inspection by the architect or his deputy of work in process to assure conformance with specifications. The architect's supervision also includes the careful auditing of the contractor's accounts from month to month, issuance of certificates to the owner concerning the amount due the contractor, from time to time, securing statements from contractors as required by Mechanics Lien Law, and safeguarding the interests of the owner in many other ways.

NOTE: "General Supervision of Work" (not including the continuous service of a clerk-of-the-works), where contracts are let on the general contract basis, commonly requires about three-tenths of the architect's total service. If, however, the work is let on separate contract basis it involves considerable extra expense for service on the part of the architect, including the continuous service of a clerk-of-the-works, and is paid for in addition to his regular fee. Rightly rendered, however, this additional service will save the owner—in cost and efficiency of the building—several times the supplementary fee.

# THE DRAFTSMAN'S LIBRARY

*The Logic of Modern Architecture*, by R. W. Sexton; 133 pages, 9½″ x 12½″; price $8.00; published by the Architectural Book Publishing Company, New York.

A thoughtful book, an interesting book, a useful book—in short, a good book—is the way we shall characterize this volume by Mr. Sexton. It is the first we have seen in which the much discussed subject of "modern" architecture is presented from a real American point of view. Most of the books on "modern" which have come to our attention have been so influenced by what some group of European architects were doing or by some radical or revolutionary obsession that they have seemed a bit unnatural and forced. Mr. Sexton has, however, by applying common sense to the question, given us what seems at the moment to be a satisfactory justification for the present trend of design. His illustrations are well selected and plentiful and represent what the sane designers of this country are doing—not conservative, not radical, but just a happy medium. We believe that any designer or draftsman can get something worth while from a careful study of the material that is found in this book.

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*Mechanical Equipment of Buildings*, Vol. I, Heating and Ventilation, by Louis Allen Harding and Arthur Cutts Willard; 963 pages (including index), 6½″ x 9″; price $10.00; published by John Wiley & Sons, Inc., New York.

The second edition of this valuable handbook has been completely revised and extended so that it is now up-to-date and abreast of the best modern practice in Heating and Ventilating. It is not a book that one reads, but having examined it with care we are confident that it would be a most useful and dependable volume to have ready for consultation whenever need should arise. For those architects, "spec" writers, and draftsmen who have to settle questions on the subject of heating and ventilating buildings it is a standard reference work which may be confidently followed.

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*Golf and Country Clubs*, by Clifford Charles Wendehack; 157 plate pages, 50 text pages, 9½″ x 13″; price $15.00; published by William Helburn, Inc., New York.

This is a most comprehensive volume on golf and country clubs consisting of a well selected group of 157 plates reinforced by 50 pages of text discussing every phase of country club design. Most books we have seen of this general type give plenty of plates but are lacking in text matter. Here, Mr. Wendehack, who has done so many country clubs that he may fairly be considered an authority, has presented to the profession the fruits of his experience—and his discussion is detailed. He gives facts and figures concerning not only the general problem but the details as well. Every part of a well equipped country club is covered. Altogether, we feel that the book is an admirable production and hope that it will set the style for future books about other kinds of buildings.

The illustrations include seventeen of the author's own clubs and thirty-three by other leading architects. These are shown by means of photographs of exteriors and interiors and by plans.

*Wrought Iron and Its Decorative Use*, by Maxwell Ayrton and Arnold Silcock; 187 pages, 9¾″ x 12¼″; price $17.50; published by Charles Scribner's Sons, New York.

The art of the smith has, since early times, been used for the enhancement of architecture. Good wrought iron ornament has a charm unmatched by other materials or crafts. This book, by two British architects, is beautifully illustrated with examples of wrought iron as it is found in the British Isles ranging in period from mediaeval times to the present day. It will prove useful to the designer (and his name is still legion) who draws upon the treasury of the past in developing his own designs. The text is treated in a historical way as the following chapter headings indicate:—General History, Fourteenth to Seventeenth Centuries, Seventeenth Century Developments, Jean Tijou, The Welsh Smiths, The West of England Smiths, The Midland Smiths, Miscellaneous Examples, and The Decay and Revival of Smith-craft.

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*Edifices de Rome Moderne*, Volume II, by Paul Letarouilly; 56 plates, 9¾″ x 14½″; price 7/6; published by John Tiranti & Company, London.

This second volume of Letarouilly reprints continues the Tiranti series of inexpensive editions of famous architectural documents. It covers 56 selected plates of Palais et Maisons together with a description of the plates included in Volumes I and II. The plates are clearly printed at a size which, though reduced considerably from the original edition, is still quite legible. The best feature of this publication is that it brings this famous document easily within the reach of the average draftsman.

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*Through France with a Sketchbook*, by Samuel Chamberlain; 109 pages, 8¾″ x 11″; price $6.00; published by Robert M. McBride & Company, New York.

Those who have followed the writings and drawings of Samuel Chamberlain as they have appeared during the last few years in PENCIL POINTS, *The American Architect*, and other journals will welcome the appearance of this book in which are presented a number of his sketches, etchings, drypoints, and lithographs, together with an account of the adventures which befell him as he went up and down and to and fro through France. Practically all of the material has been published before in the magazines, but it undoubtedly gains by being presented all together here as a permanent record.

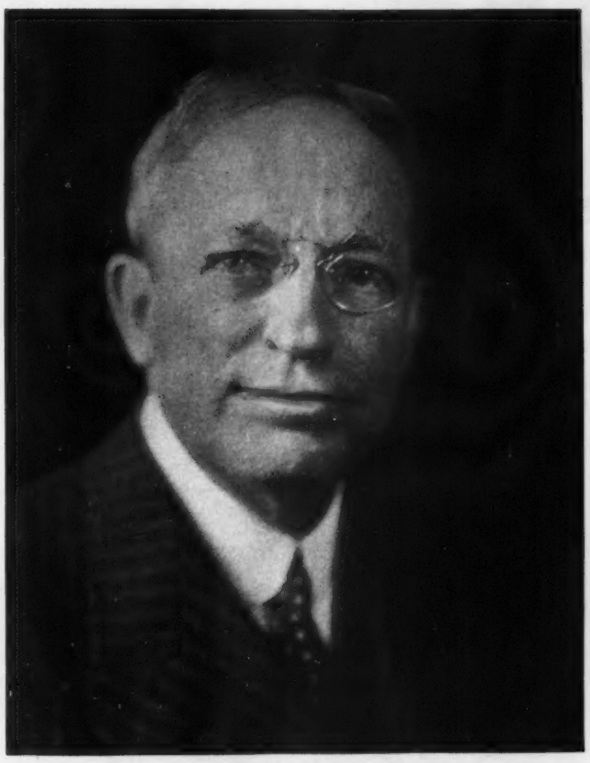
There are not many architects we know who have the capacity to get quite as much of a kick out of life as the author of this book, and of those there are very few indeed who, like him, are able to convey through the medium of their writings the full value of their observations and experiences. Chamberlain's prismatic personality is unusually ready to absorb all the color from the pageant of life which is going on about him, and he in turn gives this out in his writings with a vividness and freshness that makes the incidents he recounts live again with full intensity in the minds of his readers. We are sure that whoever loves to draw will not only find pleasure and profit in studying the many diversified examples of his sketching skill but will also be thoroughly entertained by what he has to say.

# THOMAS HASTINGS

1860—1929

THE PASSING AWAY of Thomas Hastings at Nassau Hospital, Mineola, L. I., on October 22nd, after an operation for appendicitis, removes one of the most noted figures of recent years from the field of architectural practice in America.

As a member of the firm of Carrère and Hastings and as an individual architect practicing alone since the death of John Carrère in 1911, Mr. Hastings was long one of the eminent figures in the development of modern architectural design in the United States. His influence has been far-reaching and he has done much to make modern architecture one of the Nation's great assets of native intellectual and artistic expression. His inspirational influence is to be found mainly in the earliest works which the young firm of Carrère and Hastings executed at St. Augustine, Florida, during the first two or three years of their partnership and in some of the comparatively recent buildings of a commercial nature, such as the stores of Black, Starr, and Frost on Fifth Avenue and one or two others, but his technical influence, by example, in the production of competition and working drawings, was potent throughout his long career as an architect. He was directly helpful to many young students and draftsmen by giving generously of his time to criticism and advice leading to their technical advancement.



THOMAS HASTINGS

Mr. Hastings was born in the City of New York. He studied at Columbia University for two years and afterwards went to Paris. There he entered the Ecole des Beaux Arts and worked in the Atelier André (later Laloux) until 1884, when he returned to New York and obtained a position in the office of McKim, Mead, and White. The following year he and John Carrère, who had been working in the same office, formed the partnership of Carrère and Hastings.

From the outset the firm was successful. Its first commissions included the Ponce de Leon and Alcazar Hotels and the Presbyterian Church and Methodist Church and Parsonage at St. Augustine, in which picturesque masses, good proportions, Spanish and Italian Renaissance motives and details were charmingly combined with American habits of design. The appropriate well designed garden and landscape setting and even the painted interior wall decorations of the hotels were the work of the young enthusiastic architects and their few architectural assistants. The work gave great promise of new qualities of refinement, sentiment, and beauty—promises partly fulfilled in later work, in which, however, sentiment was soon replaced by academic formalism; and modern demands were often constricted to fit the architectural forms of the eighteenth century.

Carrère and Hastings returned from St. Augustine to New York in 1887 and opened an office in one of the old Colonial period houses which stood on the site fronting Bowling Green, now occupied by the Customs House, and began a general practice of architecture which soon developed into one of the most noted in the country, causing the continued expansion of offices and consequent frequent moving of location. The firm expanded its reputation made in Florida by submitting many designs in competitions, almost but not quite good enough to win—among them an effective composition in Renaissance style for the Cathedral of St. John the Divine. The firm produced very good drawings which were much sought after by the architectural press for illustration in the magazines and a national and even international reputation for technique and scholarly design resulted before any great amount of their work had been constructed.

Mr. Hastings chiefly was credited with creating and fostering the fine technique and that kind of designing which adheres closely to precedent. He recognized that France in the 18th Century did better with the combination of architecture and landscape accessories than had been done previously or since, and he chose the monuments of the periods of the Louis as the models upon which to base nearly all his designs whenever they provided a precedent that could be adapted. He loved the rich decorative architecture and the formal gardens designed by the architects of the period of the late Renaissance and was hugely interested in the books upon such subjects. He was a scholarly architect of strongly artistic leanings rather than a great artist of scholarly attainments. He prided himself upon being practical and rightly considered all planning as the most essential province of the architect. He contributed a liberal share to the general improvement of residence design, especially of city residences, of which those of Elihu Root and H. C. Frick of New York are examples, and in a more limited sense, though more numerously, to

*(Continued on page 889)*

MR. AND MRS. BURT S. DE FREESE AND CHILDREN SEND OLD-FASHIONED GREETINGS

PRINT BY ERNEST R. HARDIN, USED ON THE COVER OF A FOLDER

LEON KEACH SENDS HIS FRIENDS THIS PEN AND INK SKETCH

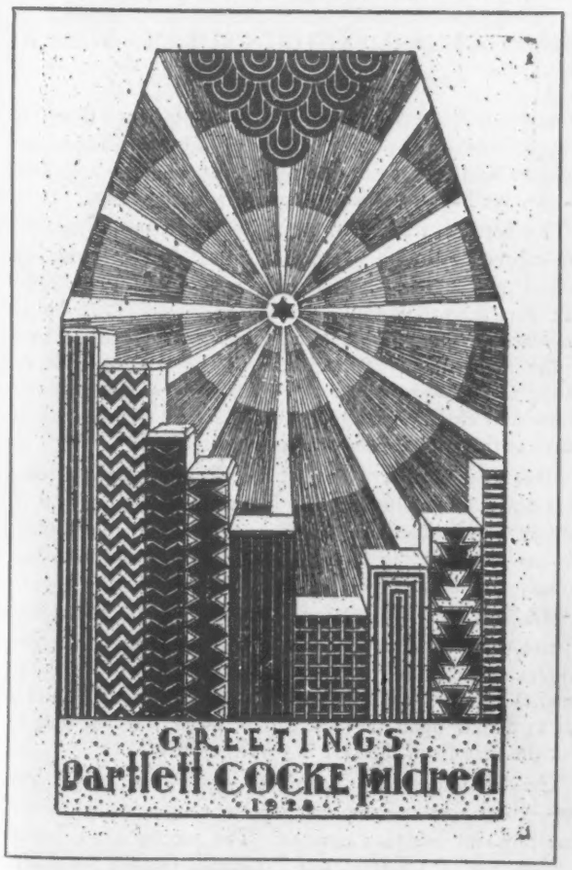
JOHN HELD, JR., MADE THIS FOR FRANCIS M. TURNER, JR.

FOR THOSE WHO MAKE THEIR OWN CHRISTMAS CARDS WE PRESENT THESE INTERESTING SUGGESTIONS

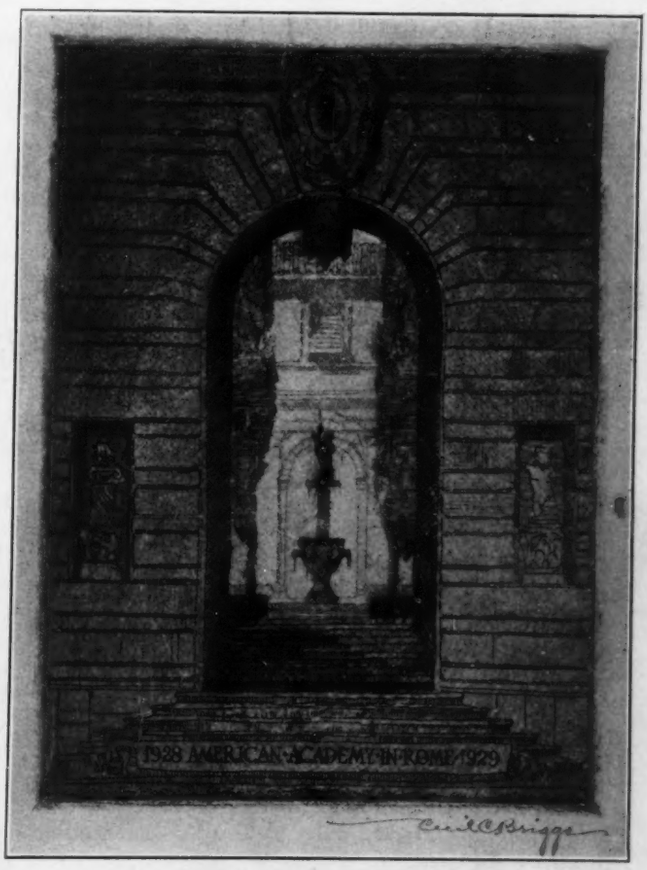
*The design by Ernest R. Hardin, and those shown opposite, printed in red, were submitted by Samuel E. Gideon*

LOUIS SKIDMORE MADE THIS SKETCH IN PARIS

AN AMUSING CARD BY JOHN CANADAY




A MODERNISTIC DESIGN PRINTED ON A GRAY CARD




AN ETCHING FROM ROME BY CECIL C. BRIGGS

YOUR CHRISTMAS CARD MAY BE AN INFORMAL SKETCH OR A DIGNIFIED ETCHING

JACK PATERSON

JACK PATERSON, the author of the article on *The Swiss Chalet*, in this issue, was born in Seattle, Washington, in 1907. He started his architectural training in the Broadway High School, Seattle, and entered the University of Washington in the fall of 1925. He has been employed by several Seattle architects but most of his training was in the office of Thomas, Grainger, and Thomas.

During his junior year at the University he won the scholarship given by the West Coast Lumbermen's Association which was awarded on the basis of all-round architectural ability shown over a period of three years of University work. This scholarship provided $1,000 to be spent in studying three months at Fontainebleau, followed by a trip into Switzerland for the purpose of studying the Swiss Chalet.

Mr. Paterson's article and some of his drawings made in Switzerland are published on pages 859 to 865.

## SKETCH CLUB ATELIER OF NEW YORK

THE SKETCH CLUB ATELIER opened two classes on October 1st and 3rd and a great interest has been shown by the consistent attendance and the enthusiasm of the classes over a very long evening, from 6:30 until many times after eleven o'clock.

This year three sketch contests will be held on given problems, the work to be exhibited the following week and criticism and judgment made by a prominent architect. A small cash award of $5.00 will be given for the first prize and a year's subscription for PENCIL POINTS as the second prize. Mr. Harvey Wiley Corbett has consented to judge the first contest.

The Sketch Club Atelier has suffered a great loss in the passing of one of its advisors, Mr. Thomas Hastings.

## LANDSCAPE ARCHITECTURAL EXHIBITION AT THE PENNSYLVANIA STATE COLLEGE

AN INTERESTING EXHIBITION was recently held by the Division of Landscape Architecture at the Pennsylvania State College. In one of the college classrooms a landscape setting was created portraying a paved terrace with a modern garden termination feature, a fountain, and an enclosure of clipped hedges, beyond which was a naturalistic background planting. The fountain feature was a simulation of tile, painted on beaver board. The head and basin were modeled and cast in plaster by Professor C. W. Wild of the Division.

The plan for the exhibit was the result of a number of competitive plans submitted by the senior students in Landscape Architecture. The design of Herbert S. Conover was the one selected and carried out. All of the work of arranging the exhibition was done by the students under the direction of Professor John R. Bracken, Head of the Division.

## PHILADELPHIA ARCHITECTURAL EXHIBITION

THE 32ND PHILADELPHIA ARCHITECTURAL EXHIBITION opened in the Wanamaker Store on the evening of October 31st with a remarkably fine dinner meeting. This was a memorial to Milton B. Medary and was held jointly by the Chapter, the Club, the collaborators in the Year Book, and was also largely attended by City Officials, and prominent citizens who also participated in the Private View which followed.

## ARCHITECTURAL SKETCH CLUB OF CHICAGO

ATELIER PARSONS-ADAMS-BOOTON

THE WORK HAS STARTED with a crowd of some forty to fifty fellows doing the esquisse for the first Beaux-Arts Problem and, with the help of Mr. Adams and Mr. Booton, we hope to make the season a huge success.

The first of a series of monthly Get-together-Smokers was enjoyed by some 73 members and their friends; the evening was a great success, as the speaker was none other than Mr. Alonzo Iannelli who spoke on the *Relation of Sculpture to Architecture*. Mr. Iannelli was formerly head of the Department of Sculpture at the Art Institute of Chicago. In addition to the speaking there were sandwiches and cider (as no good beer could be found) and of course with a smoker there had to be smokes.

Albert Eiseman, Jr., our former Massier, upon having done the Club scholarship of last year went and won it, thereby having to leave for Europe to travel and study. He has left and the "gang" at the Atelier bid him bon voyage, success, and pleasures.

The Summer Sketch Competition has come to a close and a prize of fifty dollars will be awarded to the competitor who submitted the best group of sketches. From the sketches received we believe the Jury will find it quite a job to decide upon the best group, as each is best and to pick the best from the best is—well we'll see.

The Club magazine *Treads & Risers* is growing very fast—from a mimeographed page to a twenty-page magazine in about fourteen months. The success is all due to the labors of the Editor, our President, Gerald Bradbury. We wish him a lot of success and hope to see it a fifty-page magazine in the near future.

## GUY LOWELL MEMORIAL COMPETITION

THE GUY LOWELL MEMORIAL COMPETITION in architecture will be held on the first Saturday and Sunday in February, 1930. The competition is open to citizens of the United States of good character, who are between the ages of twenty-one and thirty-one, who have had at least three years of office experience. Competitors may prepare their drawings wherever conditions conform to the requirements of the committee in charge, but these drawings must be sent to Boston for judgment.

The value of the scholarship, which is given in memory of Guy Lowell, is represented by an annual award of $1,000 to assist draftsmen and students in schools of architecture with three years or more of office experience, to benefit by six months' travel in foreign countries. The scholarship is under the direction of a managing committee of three, composed of the Chairman of the Committee of Education of the Beaux-Arts Institute of Design, the Head of the Department of Architecture at the Massachusetts Institute of Technology, and a practicing Architect in Boston.

All questions and applications should be addressed to Mr. H. P. Richmond, 12 West Street, Boston, Mass., so that they will be received by December 23rd.

## IMPORTANT EXHIBITIONS AT ARCHITECTURAL LEAGUE OF NEW YORK

THE ARCHITECTURAL LEAGUE of New York has opened, in its clubhouse at 115 East 40th Street, New York, the first of a series of important one man or one firm exhibitions designed to focus public attention on what the officers of the League believe to be the best work being done in this country at present in the fields of architecture, sculpture, and painting. The first show, which runs from November 14 to December 12, is of the work of Holabird and Root of Chicago. In the opinion of competent observers this firm is turning out work which stands out as of uniformly high quality. The League is attempting, by every means within its power, to give broad publicity to this show and to those scheduled for later appearance, and will try to interest the general public by this means in the subject of architecture and the allied arts. The shows are definitely not being run to exhibit the work of local League members but rather with the idea of honoring outstanding firms and individuals selected from the entire country. By doing the thing in a broad, impartial, and generous way it is felt that the profession of architecture generally will be assisted to rise in public esteem.

## PRATT ARCHITECTURAL CLUB

THE CLUB IS PLANNING on a novel event to close out the Old Year in the form of a New Year's Eve Luncheon at the Fraternity Club on December 31st. It is hoped that any members or old grads who are in New York for the holidays will make their presence welcome on that day. The next affair following this will be the Bridge and Dance at the Club on January 25th, 1930.

We are holding forth at the luncheons every Tuesday with an occasional speaker to vary the routine. On Nov. 12 those present enjoyed an interesting talk by Mr. L. R. Blasius of the New York Telephone Co., whose subject was "The Bi-Products Developed in the Bell Laboratories." Other speakers are scheduled for future dates. The most ambitious event on the year's program is the exhibition of work of Pratt Architects to be held next spring in New York. Special announcements will be sent out in the near future concerning this and other contemplated events.

## ERNEST BORN

THE WORK OF Ernest Born is familiar to readers of PENCIL POINTS through the reproductions of his drawings that were published in the July and November issues. This month we present as Plate XLVI a black crayon drawing by Mr. Born, one of a series showing the Soldiers' and Sailors' Memorial Bridge at Harrisburg, Pa. This particular series of drawings was made for the architects, Gehron and Ross, by whom Mr. Born is now employed.

The drawings by Mr. Born shown last July were office studies and renderings while the subjects included in last month's issue were lithographs and drawings made during European travels. The latter group, therefore, is a more direct expression of his personal tastes and inclination.

## COMPETITION FOR THE ROME PRIZES

THE AMERICAN ACADEMY in Rome has announced its annual competitions for fellowships in architecture, landscape architecture, painting, sculpture and musical composition.

The competitions are open to unmarried men not over 30 years of age who are citizens of the United States. The stipend of each fellowship is $1,500 a year with an allowance of $500 for transportation to and from Rome and $150 to $300 for materials and incidental expenses. Residence and studio are provided at the Academy, and the total estimated value of each fellowship is about $2,500 a year for three years, with opportunity for extensive travel.

The Grand Central Art Galleries of New York City will present free membership in the Galleries to the painter and sculptor who win the Rome Prize and fulfill the obligations of the fellowship.

Entries for competitions will be received until *March first.* Circular of information and application blanks may be obtained by addressing Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Avenue, New York, N. Y.

# MORE LETTERS CONCERNING THE ARCHITECTS' SMALL HOUSE SERVICE BUREAU

*From Harry Lucht, Secretary-Treasurer, The Architects' League of Northern New Jersey.*

To the Editor of PENCIL POINTS.

DEAR SIR:—

"Concerning the discussion relative to The Architects' Small House Service Bureau being conducted in PENCIL POINTS, permit me to state I have read the letters favorable to same in the October and November issues disagreeing with those opposed thereto.

"Those of Mr. Parker and Mr. Brown of course are from those having an interest in the bureau, as Director and President of the New England Division, and naturally represent such opinion which is not disinterested or impartial.

"Nevertheless, Mr. Parker's statement 'that the speculative builder is the crux of the matter and that back of him stands the money lending power of the Building and Loan Associations and Co-operative Banks who are at times doing serious injury to their communities by making possible the construction of many small houses that never ought to be built' is of interest in view of the fact that one of the largest Building and Loan Organizations in New York City maintains a 'plan department' furnishing 'Stock plans' on which loans are given, 'saving' 'unnecessary' costs to the borrower! There is another question.

"The statement of Mr. Brown 'We are heartily in accord with the main complaint of your correspondents; namely, that small houses should be designed by architects. That is why The Small House Service Bureau was formed.' Now this is amusing. It reminds one of international peace conferences with all nations paying homage to peace and disarmament whilst they are feverishly building and adding to their armies and navies for opposite reasons.

"I ask, will all the A.I.A. members favoring the A.S.H.S.B. subscribe to the same statements as follows: Churches, Banks, Office Buildings, Public Buildings, Schools, etc., etc., should be designed by architects, that is why a Stock Plan Bureau should be formed to sell plans at a fraction of the cost of engaging an architect to do so?

"All of the writers seem to overlook the point that broadcast advertising on a national scale, overshadowing all other educational or publicity work of all kinds combined concerning the practice of architecture, that fixes $25.00 as the worth and price of an architect's plans for a small house, is doing more harm than the questionable and infinitesimal good accomplished by this business. What an opinion the layman must form of the A.I.A., particularly when an architect tells his client that the A.I.A. also advocates a different price for his services for such plans!

"Mr. Liang, way off in Tientsin, China, did not overlook this point in his interesting comment and point of view from that land.

"Mr. Fisher's letter (he also is interested as a member of the bureau) states, 'It is forcing the speculative builder to build better planned and designed homes.' This is highly amusing; the evidences in the suburbs that market small houses in greater New York, New Jersey, and Long Island are a tragic contradiction. Nevertheless we would be interested in knowing just how this 'force' is effected. We would like to put it into effect.

"He would like to know what we think would happen if the A.I.A. withdrew its approval of the A.S.H.S.B. or if it (the Bureau) were dissolved. It would be a blessing. When we asked at least 6%, 8%, or 10% fees for architectural services on the small home as proper and endorsed by the A.I.A. the small home owner would not laugh and jeer at us and tell us he could obtain A.I.A. approved, recommended, and endorsed designs for $25.00.

"But more important, the A.I.A. then could engage in a nationally broadcast publicity and educational plan—'do not use stock plans—penny wise and pound foolish—engage a good competent architect at a proper fee, it pays.' It could both encourage competent architects to go after this work on a paying basis and the owner to go after the architect! This it does not do at present.

"The next letter is also from another A.S.H.S.B. director, Mr. Lippmann. Yes, yes, we admit the publicity in favor of good house design and the A.S.H.S.B. too. But the architect and his practice play second fiddle.

"Mr. Boyd's reference to the Bureau as 'a practical demonstration of the unselfishness of the profession, and its willingness to be something more than a luxury, something more than a group of somewhat remote specialists who are not interested in anything so vital as the very small American home' brings to my mind the question of at whose expense all this generosity—at the expense of the big architects whose offices could not afford to take a commission to do a small house or that of the small architect who can and will, at a proper fee, one that it would not, however, pay the large office? Just what kind of unselfishness is this?

"We can write letters and discuss the matter until we are blue in the face but there are a few facts that it will never alter. The majority of small houses built from stock plans or carpenters' designs are in the large majority of instances a blot on the landscape, the exceptions are infinitesimal in proportion. Stock plans encourage dispensing with architect's services. A small home needs the full and complete services of an architect for exactly the same reasons as does any structure intended to service parallel functions, though different, as important.

"The A.I.A. should encourage architecture as architecture with no exceptions for any group or class of buildings and there will always be dissension and dissatisfaction with the contradiction existing between $25.00 for stock plans and the circular of information as to architect's fees and functions.

"We again reaffirm that the A.S.H.S.B. has been tried and that the results in evidence from such plans over a period of years prove that full architect's services are a necessity, one the owner cannot afford to be without. If this is not so and the Bureau is a success, then let us extend its scope to larger fields, churches, banks, public and institutional buildings, industrial and business buildings, for to the layman this seems equally as plausible and practicable, particularly to standard school buildings and banks with the same problems and size plots. Thank goodness business men in these institutions realize it pays to engage an architect! Thanks be they are not educated as is the small house owner by the A.S.H.S.B. with the A.I.A. endorsement! Stock Church plans plus some of the meddling job holding architectural advisory boards maintained by some denominations at added cost carried by small churches who can just about afford the cheapest kind of building, enough to hamper the architect as is, would be another fine thing."

*(Continued on page 876)*

## A.I.A. DEVELOPS SYSTEM OF HONOR AWARDS

A SYSTEM OF HONOR AWARDS, "creating year by year a visible history of the advance of architecture in the nation's cities," is being developed by the American Institute of Architects.

A definite plan governing the determination of exceptional architectural merit has been adopted, and will be carried out by Chapters all over the country. "The plan," Mr. Hammond said, "represents nationwide extension under uniform control of honor award programs already sponsored by Chapters in New York, Chicago, Los Angeles, and other cities."

The Minnesota Chapter, Mr. Hammond also announced, has decided to issue awards for the best in Minneapolis architecture. Similar action, it is expected, will be taken by other Chapters so that eventually distinction in architecture will annually receive public recognition throughout the United States.

The aim of the Institute, as stated by Mr. Hammond, is "to encourage the appreciation of architecture, of allied arts of design, and of the industrial arts."

The honor plan was framed by a special committee of the Institute of which David J. Witmore of Los Angeles is chairman. Other members are: Joseph D. Leland, Boston; Raymond Hood, New York; John P. B. Sinkler, Philadelphia; Nat G. Walker, Ft. Myers, Fla.; Pierre Blouke, Chicago; George W. Spearl, St. Louis; Ralph H. Cameron, San Antonio; Arthur Loveless, Seattle; Raymond W. Jeans, San Francisco.

Awards will be determined by a jury selected by the Executive Committee of the Chapter from nominations made by the Chapter Committee on Honor Awards. Each jury is to consist of three corporate members of the Institute not members of the awarding Chapter.

## THE ARCHITECTS' LEAGUE OF NORTHERN NEW JERSEY

ALMOST TWO HUNDRED COPIES of the *Architect's Profit and Production Cost* as published by PENCIL POINTS were distributed gratis to every member, practicing architect, and those licensed and registered to practice architecture in our territory, Bergen, and Passaic Counties. It is felt that this expense is well justified from different angles and that other architectural organizations would do well to consider the advisability of doing likewise. This is of benefit not only to those receiving same but to the entire profession.

On November 14th our entire membership attended a meeting of the New Jersey Society of Architects and other architectural organizations at Toni's at 18 Green Street, Newark, N. J., where Amendments to the New Jersey State Registration Law and other matters were discussed. The meeting was addressed by the President of the State Board of Architects, Mr. Brazer, President of the National Council of Registration Boards and A.I.A. Committee, and by State Senator Ralph Chandless.

A Draftsmen's Exchange is maintained and conducted free of charge to employees and employers.

A committee is preparing rules and regulations for publicly awarding prizes and mentions for architectural merit on different classifications of structures, as an incentive to better construction and design and at the same time focusing public attention upon the Architect.

Another committee is preparing a Year Book which will be issued this winter.

Several summer festivals and outings have been conducted together with the Architects' Club of North Hudson and this fall and winter will witness many interesting meetings and activities.

## CONNECTICUT ARCHITECTURAL LEAGUE

AT THE OCTOBER MEETING of the Connecticut Architectural League, Inc., it was unanimously voted to continue the effort begun six years ago to obtain the enactment of a law providing for the registration of architects in Connecticut. This law has had the opposition of the Connecticut Manufacturers' Association on the theory that such a law might be a wedge which could possibly be used to open the way to state enrollment and regulation of the crafts and of labor. With more than thirty of the forty-eight states having architect registration laws, several extant more than a score of years, it is hoped to convince the legislators of the next general assembly that the manufacturers in common with the rest of the people of the state will derive nothing but good from the proposed law.

President Shiner appointed the following named members a committee to have charge of the registration law activities: Lorenzo Hamilton, Meriden; Philip Sunderland, Danbury; Leonard Asheim, Bridgeport; Ferdinand Von Beren, New Haven; Alfred Mausolff, New Canaan; Carl J. Malmfeldt, Hartford; Walter R. Shiner, New Haven; G. L. Bilderbeck, New London; and George H. Gray, New Haven, *Chairman*.

For the coming year President Shiner has appointed an educational committee to consist of: Harold H. Davis, New Haven; William F. Brooks, Hartford; Alfred W. Boylen, *Chairman*. This committee is planning for a series of lectures both technical and of general interest.

The publication of a monthly journal was authorized. This is to be started as a bulletin and no advertisements are to be printed other than classified want advertisements which are to be gratis to the members. The editorial board appointed for the coming year will be made up of: Douglas W. Orr, New Haven; Raymond J. Percival, Hartford; Walter R. Shiner, New Haven, *Chairman*.

Under the direction of the several vice presidents it is proposed that a series of luncheon meetings be held in the several cities of the state during the coming winter and spring. In each of the cities where the luncheon is held all of the architects of that city will be urged to attend. The purpose of these meetings is to promote the interests of the League in general and those of the proposed registration law in particular.

The new members elected at the October meeting were: Carl J. Malmfeldt of Malmfeldt, Adams & Prentice, Hartford, and Calvin Kiessling, New Canaan.

FROM A LINOLEUM CUT BY MEYER GREENBERG, OF DETROIT, MICHIGAN

## MORE LETTERS CONCERNING THE ARCHITECTS' SMALL HOUSE SERVICE BUREAU

*(Continued from page 874)*

*From Herbert Ainsworth Blogg, Architect, of Seattle, Washington.*

Editor, PENCIL POINTS PRESS.

DEAR SIR:

"In answer to an article in your magazine of June, 1929, entitled 'A Protest to the A.I.A. from the Architects' League of Northern New Jersey':

"First as to the meaning of the statements in paragraph seven, what kind of co-operation is meant? It sounds somewhat like waving a club.

"Again in paragraph nine, what is meant by the phrase 'doing small houses and make a living thereby'? If the work is done as it should be done there is a mighty small living in it.

"As to the content of paragraph ten, no such condition exists here for it is not possible to so compete.

"The entire matter resolves itself into the need of educating the general public as to what is good architecture, and as to the real need and money value of the architect's service to the owner and the public in general.

"If the Architects' League of Northern New Jersey has a constructive suggestion that will eliminate the very bad examples of hundreds of houses built by contractors who do not have proper plan service it is their duty to broadcast it. The wholesale builder, and even the small builder, will not use the service of the trained architect as they feel that it is a needless expense. We know that the service of a competent architect would improve their sales, but, to date, few, if any of us, have been able to sell the idea to the contractor or the public. I think that the fault is probably ours.

"Perhaps the remedy lies in getting a law passed in each State forbidding the erection of any structure without the full service of an architect licensed by that State. Considering the inadequacy of most of the present architects' laws, and how hard it has been for us to get them at all, one can see that we have a tough job ahead. Few of our young men are sufficiently experienced to pass a rigid state law examination, so they would still be 'out in the cold.'

"As to the last paragraph of the statement by the Architects' League of Northern New Jersey, I deny the allegation in toto. Having served as Director of Service of the North Pacific Division of The Architects' Small House Service Bureau for nearly four years I know whereof I speak. On the average I give about eight hours of my time, weekly, to Bureau business as well as furnishing telephone service, and listing, office space, and stenographer for answering many letter inquiries. For this service I have collected from the Division an average of $25.00 per month and nothing on my original investment to help the Division start off. The remuneration for office space, telephone, and stenographer has only been available for the last two years. The products of some plan services are not worth $5.00 a set. Some are worth more than is asked.

"It is my understanding that it has never been the aim of The Architects' Small House Service Bureau to educate the public to the idea that the value of a set of plans for a small house was $25.00 or $50.00, or any other set price, for we in the profession know that the service of the architect cannot be set at a fixed price. The value of his service depends upon his skill in his profession. The American Institute of Architects recognized this when it issued its '*Schedule of Minimum Charges.*'

"Large profits? It is to laugh."

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*From Wilfred W. Beach, Architect, Chicago, Illinois.*

Mr. Russell F. Whitehead,
Editor, PENCIL POINTS

DEAR MR. WHITEHEAD:

"After reading the 'Letters Concerning the Architects' Small House Service Bureau' in your October issue, I am constrained to voice my opinions on the subject, after holding off these many years. To a certain extent, this discussion is distinctly one-sided, confined as it is almost entirely to architects who have no interest in planning 'houses of not more than six primary rooms.'

"The 'holier than thou' attitude of those who insist that the product of The Architects' Small House Service Bureau far transcends the output of the average practitioner along the same line may be warranted—or may be open to argument. My own inspection of the Bureau's working drawings leads me to suspect that many of them were designed by draftsmen lacking intensive experience and contact with clients along this line, hence much of the 'improvement' is in exterior design at the expense of plan.

"Be that as it may, if we are to assume that architecture is primarily a *business*, by means of which the majority of us attempt to earn a livelihood, there is a distinct question as to the business acumen that would be exhibited by the big men in the profession putting out complete standardized working drawings of the type of buildings upon which they depend for their profit, and selling sets of blue prints and specifications of these buildings at reduced prices. Is it not equally obvious that the small architect would never have been so foolish as to have fathered these small-house plans?

"In the first few years of my own practice, I welcomed the small-house client, whose work, though not in itself distinctly profitable, served to increase my clientele and to stabilize my organization. As I outgrew the need of these 'pot boilers,' I was glad to be able to increase my charge for this type of service, even though the volume of it was thereby materially reduced. But I cannot see that either the profession or the public was benefited in any great degree by having the Bureau compete at reduced prices for this small-house business—and thus drive the novice into seeking more important work at a cut commission. He will continue to make a living at the expense of the public—that portion of the public seeking something cheap—and some of his work will be good and much of it bad, whether the product be inconspicuous or monumental.

"The subject is too involved for true analysis, but it has seemed to me that, if the Institute could have had a real sympathy for the problems of the small architect as well as for the unfortunate clients he was so abusing, the Bureau would have been made to function through those offices that were doing the majority of this business and have conducted its educational campaign where it would have done the most good, within the profession (where it would have been appreciated) instead of before that cold public, upon whom the major impress has been a presumed realization of 'how little the blue prints are really worth and what fabulous profits there be in architecture.'

"What boots it that the Institute 'gets out from under' by its naïve statement 'That it approves the idea only'? What more does the Bureau need—or to what could the

*(Continued on page 886)*

# HERE AND THERE AND THIS AND THAT

CONDUCTED BY RWR

*This department conducts four competitions each month. A prize of $10.00 is awarded in each class as follows: Class 1, sketches or drawings in any medium; Class 2, poetry; Class 3, cartoons; Class 4, miscellaneous items not coming under the above headings. Everyone is eligible to enter material in any of these four divisions. Good Wrinkle Section—A prize of $10.00 is awarded for any suggestions as to how work in the drafting room may be facilitated. No matter how simple the scheme, if you have found it of help in making your work easier, send it in. Competitions close the tenth of each month so that contributions for a forthcoming issue must be received by the tenth of the month preceding the publication date in order to be eligible for that month's competition. Material received after the closing date is entered in the following month's competition.*

*The publishers reserve the right to publish any of the material, other than the prize winners, at any time, unless specifically requested not to do so by the contributor.*

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PRIZES FOR THIS month have been awarded as follows:

Class I—George Nelson of New Haven, Conn.
Class II—Hunter Barrington of Santa Monica, Cal.
Class III—Stephen V. D'Amico of Pittsburgh, Pa.
Class IV—H. C. Taylor of Bartlesville, Okla.

Don't forget the new heading for this department. A total of fifty dollars in prizes will be awarded. Competition closes on December 10th at 5 P. M. For detailed information see the November issue, page 807.

For those of you who have made your own Christmas cards, a special competition will be open from now until January 6th. Each competitor may submit as many cards as he wishes but they must be of his own design. If you haven't already started to work on your cards you may find some helpful suggestions on pages 870 and 871. Designs in any medium will be eligible for the ten dollar prize. The winner will be published in the February issue of this department.

For your immediate consideration, however, the new heading for HERE AND THERE is the thing!

It may be a bit early, but here's hoping that Santa Claus will fill your stocking with everything you want and that everybody has a very MERRY CHRISTMAS!

We want to call your attention to a letter from Mr. Oliver Twitwell Oliver in which he thanks Mr. Laidlaw for boosting his *Competition for the Corner Stone of a Gasoline Filling Station.* It will be recalled that the program for this competition was printed in the Here & There Department last month. Mr. Oliver Twitwell Oliver's letter is printed on page 879.

"BROWNING'S HOUSE"

"PRAGUE"

PENCIL SKETCHES BY GEORGE NELSON

(PRIZE—*Class One—November Competition*)

# ·THE·BOSS·GOES·IN·FOR·SLANG·
# ·AND·EFFICIENCY·
# ·WITH·UNEXPECTED·RESULTS·

The Daily Bugle
NEWS ITEM
EFFICIENCY EXPERTS ARE NOW SAVING SYLLABLES- OUR GOOD OLD SLANG WORD "OKAY" HAS NOW BEEN SHORTENED TO "OKE."
THAT SOUNDS ALL RIGHT. I'LL HAVE TO USE IT
IGNATZ BONES ARCHITECK
HOW'RE THE SPECS, ED?
ALL RIGHT, MR. BONES, WOULD YOU LIKE TO USE CONCRETE BLOCKS FOR FOUNDATIONS?
OKE
HOW'RE THE PLANS, TOM?
THEY'RE IN GOOD SHAPE, MR. BONES. DO YOU THINK WE SHOULD USE CAST LEAD LEADER HEADS?
OKE
HOW'S THE TYPING, FLOSSIE?
JUST FINE, MR. BONES. DID YOU WANT TILE ROOFING INSTEAD OF SLATE?
OKE
MR. BONES, TOM SAYS WHAT ABOUT TILE IN THE BATH ROOMS?
OKE
WELL, I'M GLAD THAT JOB'S OUT
HERE ARE THE SPECIFICATIONS, MR. BONES.
OKE. I'LL LOOK THEM OVER
AND THIS IS WHAT HE SAW!
-23-
OAK (Continued)
Work Required -
Provide Oak blocks for foundations; all leader heads to be of Oak; Oak roofs to be used thru-out; all bath rooms to have Oak finish; Oak
-STEPHEN V. D'AMICO-
PGH. 11/29

Drawn by Stephen V. D'Amico, of Pittsburgh, Pennsylvania

(Prize—*Class Three—November Competition*)

## OLIVER TWITWELL OLIVER

ARCHITECT-AT-LARGE

November 8th, 1929.

Byron F. Laidlaw,
Office of Benjamin Wistar Morris,
101 Park Avenue,
New York, N. Y.

MY DEAR MR. LAIDLAW:

Words fail me in expressing my gratitude to you for your noble and unstinting efforts in promoting the competition to complete my Gasoline Filling Station on 42nd Street. I feel that your time and generous labor should be worthily honored. In these times of great financial stress and strain so full of moments of inertia and radii of gyration this unselfishness, this sacrifice on the altars of the oil octopus needs more than just a hand-out of thank yous. I therefore am of the unshaken opinion that an honorarium in accordance with the value of your valuable and unreplaceable time should be accorded you. Therefore I am enclosing you a check (for exactly no dollars and one cent) that I hope most sincerely will repay you for all this effort for the promotion of fine solid architecture. Will you extend to Messrs. Geesebone, Von S. Walter and H. R. Hutchins my cordial and irrepressible greetings for their help in this great overtaking.

Believe me, most sincerely yours truly,

(*Signed*) OLIVER TWITWELL OLIVER.

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## DRAFTING ROOM LIMERICKS

*By Hunter Barrington of Santa Monica, Cal.*

(PRIZE—*Class Two—November Competition*)

A man who was called a designer
Set forth for a cruise on a liner.
His hunger for art
Was pronounced from the start,
But his hunger for victuals was minor.

An art connoisseur who collects
Rare treasures quite often reflects—
"The sign near the door
Of the curio store
Should sometimes be read 'ART OBJECTS.'"

A draftsman who smoked cigarettes
Had moments of sober regrets.
Burnt holes on his tracing
Got worse with erasing
And contractors took 'em for jets.

A bashful young draftsman named Cox
Went shopping to purchase some smocks.
The girl in the store
Cast her eyes to the floor
When he asked, "Do you smell artists' socks?"

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## ARCHITECT'S SPECIFICATIONS FOR A WIFE

*By H. C. Taylor of Bartlesville, Okla.*

(PRIZE—*Class Four—November Competition*)

BIDS: The Architect reserves the right to reject any and all applicants.

MAINTENANCE: The applicant will be held responsible and shall make good at her own expense all damages done to the Owner's heart during the period of courtship, and if awarded contract must guarantee to keep Owner well fed and satisfied for the rest of his natural life.

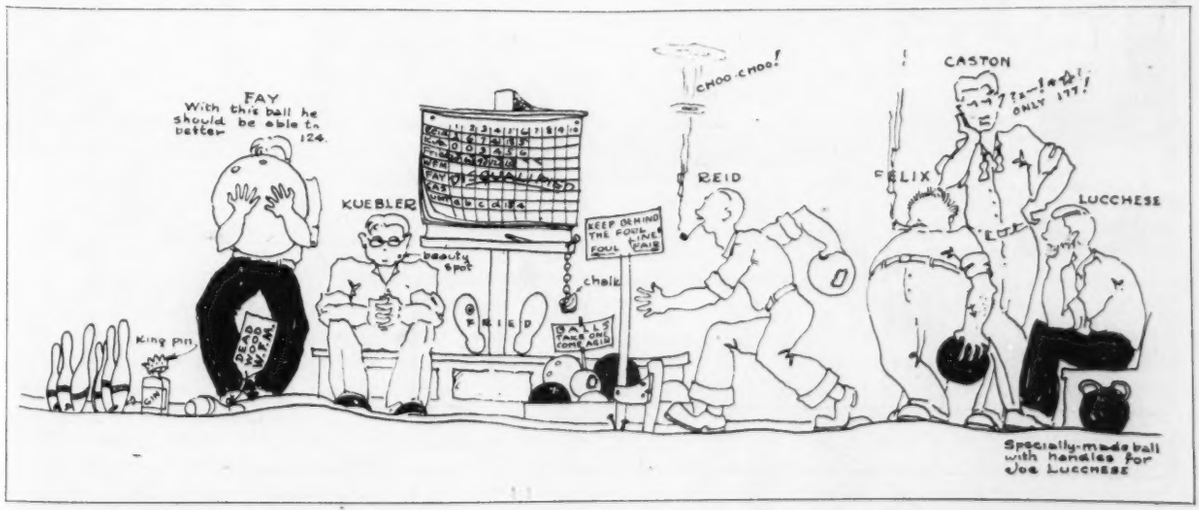
GENERAL CONDITIONS: Must be blond or equal. Must be five foot two with eyes of blue or other approved make. Rear elevation must be in keeping with other like parts, and shall not overbalance the rest of her structure. Must have brains as well as beauty, this fact must be certified to by the latest certificate of a national Correspondence School.

PAINT: Only a first class paint job will be accepted. Paint must be applied in a neat and workmanlike manner, with no streaks, smears, wrinkles or other blemishes.

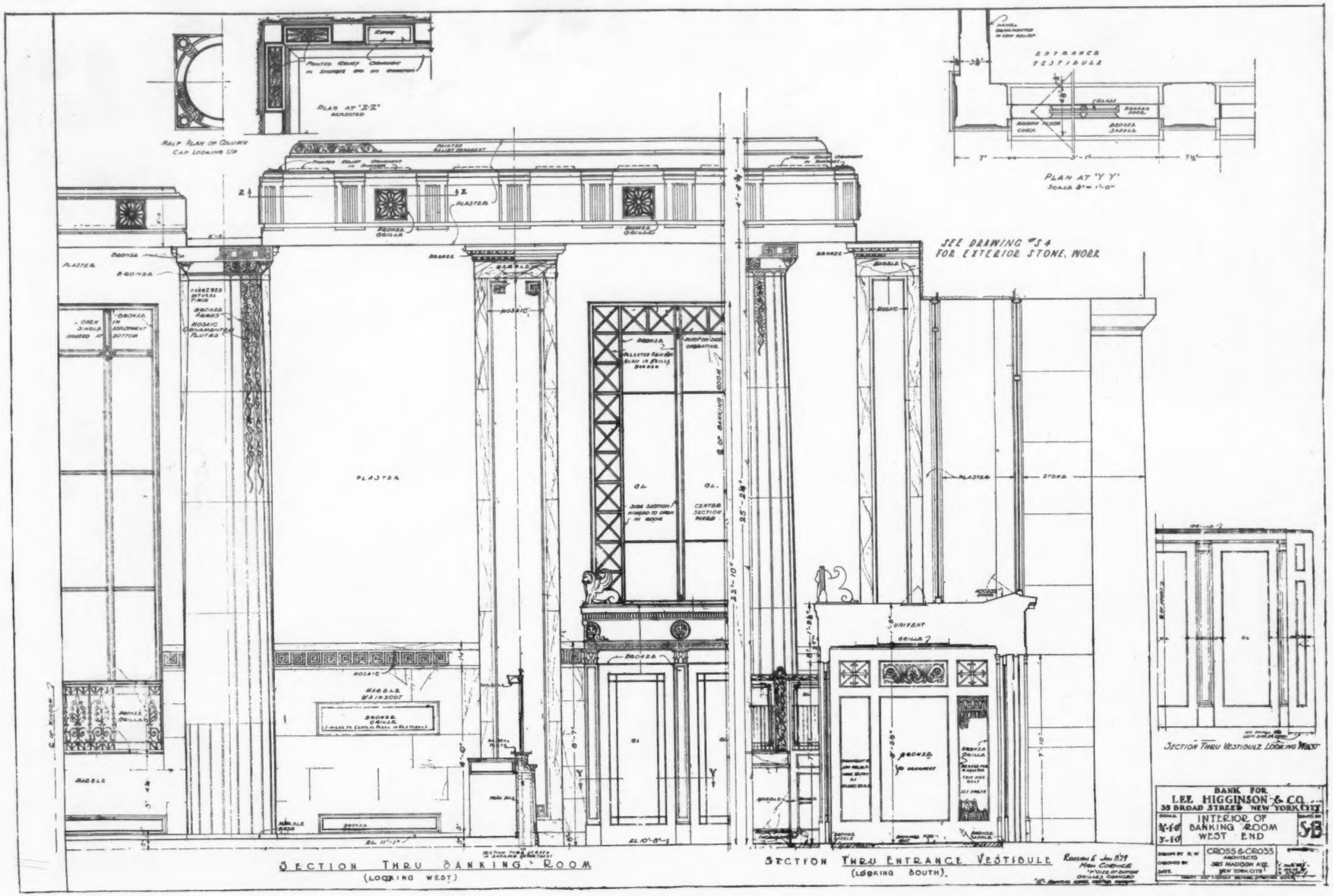
FEES AND PERMITS: All Minister's fees and Permits to be married, will be taken care of by the Owner (otherwise Architect).

HEATING: Must maintain a uniform temper, and not first be hot and then cold or vice versa. Must guarantee a back that will keep the Owner's feet warm when the temperature outside stands at twenty below zero.

PAYMENT: Accepted applicant will receive Owner's hand at altar, and 85% of his kisses every two weeks or oftener if cause can be shown that payment is due.




"THE BOARD OF TRANSPORTATION BOWLING CLUB MEETS"—CARTOON BY THOMAS S. ARCURI, OF NEW YORK


PLAN AT "Z-Z"
HALF PLAN OF COLUMN CAP LOOKING UP
ENTRANCE VESTIBULE
PLAN AT "Y Y"
SEE DRAWING "S 4 FOR EXTERIOR STONE WORK
SECTION THRU VESTIBULE LOOKING WEST
SECTION THRU BANKING ROOM (LOOKING WEST)
SECTION THRU ENTRANCE VESTIBULE (LOOKING SOUTH).
BANK FOR LEE, HIGGINSON & CO. 35 BROAD STREET NEW YORK CITY
INTERIOR OF BANKING ROOM WEST END
CROSS & CROSS ARCHITECTS 385 MADISON AVE. NEW YORK CITY

DETAILS OF CONSTRUCTION—INTERIOR OF BANKING ROOM FOR LEE, HIGGINSON & COMPANY, NEW YORK

CROSS AND CROSS, ARCHITECTS

*(See also page 884)*

# THE SPECIFICATION DESK

## *A Department for the Specification Writer*

## BURNT CLAY—PART I

*By David B. Emerson*

OF ALL THE VARIOUS materials which are used in the construction of buildings, very few play as important a part as the burnt clay products, that is brick, terra cotta, and tile. Brick is the first and the most important of the three, both in the matter of age, and the diversity of its uses, as very early in the dawn of civilization man learned to make brick; just when or where it is not possible to say, but the general opinion now is that the making of brick probably originated in China. Bricks have been found in the recent excavations at Ur of the Chaldees, and the Babylonians as early as the Sixth Century, B. C., were not only making excellent hard burned bricks, but were enameling them beautifully. From these early days down to the present time brick has been a universal building material wherever clay was to be found in any appreciable quantity.

The Romans used brick extensively in their buildings, both in Rome and throughout the Empire. The Roman brick was in reality a tile, made by beating the clay flat, drying it on the ground, stacking edgeways in the kiln and burning it by woodflame. The average size of the Roman brick was 18″ x 12″ x 1½″ and very often it was only one inch thick. During the Romanesque and Gothic periods, brick was used very extensively as a building material in Italy, France, Germany and the Low Countries, and some of the brick churches and cathedrals of North Italy, Germany, and the Flanders are most charming pieces of architecture, holding their own with the stone architecture of the same periods.

In Spain the first brickwork of any importance was done by the Moors, whose work at Granada, Seville, and Cordoba still stands and gives abundant proof of their greatness as builders. Later in the Gothic and Renaissance periods the Spaniards did some very fine brick buildings.

The use of brick in England practically ceased after the withdrawal of the Romans in the Fifth Century, until after the Norman Conquest in the Eleventh Century. The only brick buildings which the Saxons built were made with Roman bricks taken from earlier buildings. The first example of purely English brickwork is the church at Little Coggeshall in Essex, built about 1200. The bricks which were used are distinctly different from the earlier Roman bricks, being about 12″ x 6″ x 1¾″ in size. In the reign of the Tudors a large amount of very good brickwork was done, particularly in Norfolk, Suffolk, and Kent, and the buildings at Hampton Court built by Wolsey and Henry are marvellously fine examples of Tudor brickwork. During the Seventeenth and Eighteenth Centuries many very fine brick buildings were built, particularly by Wren, who was the master of brick architecture, as the William and Mary portion of Hampton Court, the Chelsea Hospital, and other buildings give abundant evidence to prove. In the United States the earliest records show that the making of brick was started in Virginia as early as 1611, and in Massachusetts as early as 1629, but bricks were undoubtedly made in the colonies earlier than that.

Quite a few writers on the subject tell us of brick brought into the colonies from England and Holland, but I for one am very much inclined to doubt these tales, as there were too many much more valuable cargoes which could be brought to the colonies, and it is rather hard to believe that the Dutch and Walloons of New Amsterdam, and the Norfolk, Suffolk, and Essex men of Massachusetts and New Hampshire, did not make use of the clay beds right at hand to make bricks when they needed them. These stories are like the tales of the buildings in the colonies which were designed by Wren, considerably exaggerated. From these humble beginnings has grown the present brick industry in this country, and that is what interests us most at this time.

The first consideration in the study of bricks is clay, which is known as a hydrated silicate of alumina, with various intermingled impurities such as oxides of iron, calcium, magnesium, potassium, sodium, tatanium and sulphur. There are three kinds of clay which are used in the making of bricks; surface clays from which the commoner type of bricks are made; shales which great pressure has nearly reduced to the form of slate; and refractories or fire clays which are mined at deeper levels and, as their name indicates, resist fire and fuse only at a very high temperature. The color in bricks is divided into three classes: red burning, buff burning, and gray burning clays, due principally to the varying amounts of iron oxides, lime, or magnesium in the clay. Iron oxides tend to produce red, dark brown, and purple tones; lime tends to whitish tones; and magnesium to light brown or tan. Lime mixed with iron oxides runs to cream colors; magnesium mixed with iron produces buff and yellow tones. Clays which contain neither iron nor magnesium burn white. In addition to the composition of the clay, the method and degree of the burning of the brick has a very decided influence on the color.

In the manufacture of face bricks colors, other than those dependent on the composition of the clay and the burning, are obtained by more or less artificial means, speckles are produced by adding manganese to the clay, which fuses in the burning; "slips" such as are used for terra cotta are sprayed on the "green" bricks before burning. The blue bricks used in the Vanderbilt Hotel in New York City are an example of that type of brick, and the famous black bricks used in the American Radiator Company's building in New York City were produced by dipping the "green" brick in a liquid compound which burned black. One of the largest manufacturers of face bricks is at the present time experimenting with a process

CROSS AND CROSS, ARCHITECTS
(See also page 884)

of adding coloring matter to the clay before burning, thereby producing new colors, and they showed me a marvellous turquoise blue produced in that manner. These bricks are not as yet on the market, but they undoubtedly will be in the course of another year.

All bricks were made by hand until comparatively recent times, and the old time methods still prevail in many sections of the country. The method was quite simple. The surface clay was stripped from the banks, tempered with water, run through a pugmill which thoroughly ground the clay, and the soft clay was then pressed by hand into wooden moulds (iron and steel moulds were most generally used of late years), then carefully slipped out of the moulds on the ground or on wooden racks to dry until they were ready to be built into a kiln. To facilitate the slipping of the bricks from the moulds, before each operation the moulds were immersed or slopped in water, or they were sprinkled with sand, which gave rise to the titles of "slop mould" and "sand mould" bricks. The expression "water struck" is another name for slop mould brick, because the moulder dipped his "striker" in water before scraping it across the top of the moulds to even up the exposed surface of the clay. In some localities, notably some parts of Massachusetts and New Hampshire, sand mould bricks are called "sand struck" brick.

The usual method of burning these hand made bricks was quite simple. The bricks were carefully stacked on edge, leaving spaces between them for the fire to penetrate, with arched fire holes at the bottom, running entirely through the kiln. The sides and ends of the kiln were well plastered with mud; wood was the regular fuel, and it took about a week to burn the kiln.

During the past fifty years the growing demand and the changing economic conditions have brought about the invention of power machinery for the manufacture of bricks, so that at the present time the bulk of the bricks made in this country is machine made. Machine made bricks are manufactured by three different methods, dependent on the kind of clay used, and the kind of brick desired, "slop" or "sand mould," "wire cut," and "dry press."

In making bricks by machine, the clay is taken from the pit or mine as the case may be, and is either left in the open to weather, or else it is put at once into the process of manufacture, which is the usual practice. If the material comes in lumps too large for the dry pan, it is run through crushers to reduce it to the proper size. The dry pan consists of an encased revolving perforated steel plate, over which a pair of very heavy rollers are run contrariwise to the revolving steel plate. The crushed clay which falls through the perforations in the steel plate is conveyed by means of belts to screens of the proper mesh for selection. Whatever clay fails to pass the screens is automatically conveyed back to the dry pans to be recrushed. For "slop" or "sand mould" brick the screened clay is thoroughly mixed or "pugged," as it is called, to the consistency of soft mud, in a box provided with revolving blades, and then pressed by machine into moulds which have either been flushed with water or sprinkled with sand to prevent the clay from sticking to the moulds, not entirely unlike the old hand-made process. In the making of "wire cut" brick the clay or shale is mixed to the consistency of stiff mud, and forced by a powerful auger machine, in the form of a bar, through a die having the cross section of a brick. This bar is carried on a moving belt to a slotted steel table, where a moving frame strung with a series of fine piano wires, descends and cuts the bar to the proper lengths and widths.

In the dry press method, the almost dry powdered clay is forced into moulds under enormous pressure, and automatically released on the off bearing table in front of the machine. The "green" bricks, except in the case of the "dry press" bricks, after coming from the machines are stacked on cars and run into the dry house, where the excess moisture is expelled and the bricks are ready to be burned. "Dry press" bricks which need little or no drying are taken directly from the machine to the kiln. At the present time most bricks are burned in permanent kilns, which are either of the periodic "up draft" or "down draft" type, "continuous" type or "tunnel" type, coal being the usual fuel, but oil is sometimes used. Periodic kilns are those in which the brick are set, burnt off and drawn, to make way for the next batch; continuous kilns, as the name indicates, are built in connected batteries, so that each burning chamber starts its successor; tunnel kilns are constructed to accommodate a train of small fireproof cars which are loaded with "green" bricks, and slowly drawn through the fired tunnel to the end, where they come out completely burned.

The methods which have been described are used both for common brick and for face brick. Common brick, according to the Common Brick Manufacturers' Association of America, "may be described as that brick, which is not specially processed to produce certain surface appearances." Face bricks are treated in various ways to produce the different surface appearances. The drag of a wire over the fresh clay leaves fine horizontal or vertical scorings on the face of the brick, various other methods produce the different scarifications used for shadow effects. In addition to the various surface treatments, face bricks are treated with "slips" sprayed on, or "dips" in which the brick is immersed, as previously noted.

One of the most recent innovations in face bricks, is a metal coated brick, which one of the larger manufacturers of face bricks is about to put on the market. This brick is produced by a double burning, the brick is burned, then the face and ends are coated with metal, either copper, brass, or aluminum, and then reburned to fuse the metal and amalgamate it with the brick. The effect of this metal on the rough surface of the brick is very interesting and for modernistic work it will certainly give a very brilliant touch when used as a trim. The size of face bricks average about 8¼″ x 4″ x 2¼″, but there are a number of special sizes on the market, notably the "Roman" which is about 12″ x 4″ x 1½″, the "Norman" which is about 12″ x 4″ x 2¼″, and the "Old English" which is about 9″ x 4⅜″ x 2½″. Fire bricks are made from fire clays mined at deep levels, either by the stiff mud or the dry press process, and also by the soft mud process, hand moulded, and they are burned at a very high temperature. These bricks are used for lining the combustion chambers of boilers, boiler flues and similar places where extremely high temperatures occur, on account of their refractory quality. Fire bricks should always be laid up in fire clay, and although they have a great resistance to heat they have very little resistance to the weather, so they should never be used for exterior work, and should be protected from the weather at all times.

Enameled bricks are made by two different processes, the English and Scotch, which is that of making a soft mud brick, applying the glaze which is composed of silica, feldspar, English "ball clay" and some other minor ingredients and then burning in one fire, thereby making the change in the body and the glaze simultaneous; and the double burn process, which consists of taking a selected quality of thoroughly burned dry press face brick, coating

the surface, or surfaces, which are to be exposed with specially prepared enamels, having the same co-efficient of expansion as the brick itself, and then reburning so that the enamel fuses with the brick and becomes an integral part of it. Both of these processes have their advocates, and both produce a very good brick, and it is up to the user to make his own choice.

Enameled bricks are used in interior work for facing the walls of kitchens, creameries, bakeries, laundries, toilet rooms and similar locations, and on exterior work for facing the walls of courts and light shafts where the diffusion of light is desired; they have been used for facing the street fronts of buildings. They are made in white, ivory, blue, green, jade, brown, black, speckled buff, and speckled brown, in English size, which is about 8⅞" x 4⅜" x 2⅞", and in American size which is about 8¼" x 4" x 2⅜".

Porcelain glazed bricks are made in the same manner as enameled bricks, except that the silica is omitted in the mixing of the glaze which produces a dull or matt glaze. These bricks are used for the same purposes and are made in the same colors and sizes as the enameled bricks. Salt glazed brick are produced by throwing a few shovelfuls of rock salt into the fires, when the bricks are nearly burned which produces a vitrified glaze. These bricks are used for much the same purposes as enameled and porcelain glazed bricks and have the advantage of being cheaper in price, and quite as sanitary, but of course they do not diffuse light like the enameled bricks.

Hollow bricks which are the same size as common bricks are still made and used, although they have to a great extent been superseded by the various types of hollow terra cotta back-up tile. These bricks are made with two cells, and are scored on all four sides to give a key for mortar and plaster. They bond perfectly with common bricks, and prevent dampness from passing through the wall, also they insulate against heat and cold as do hollow tile blocks. For at least one purpose they have a place distinctly their own, and that is as the inside facing of the backing up of stone work, where hollow tile can not be used, and the hollow brick is just as efficient as common brick and as damp resisting as hollow tile. I have seen a statement that hollow bricks were used throughout the Chicago Tribune Building for backing up the limestone facing.

Moulded bricks have been used since the early part of the Middle Ages, as the material lends itself admirably to that treatment. Mouldings were formed by shaping the clay in moulds, originally of wood, but at the present time of steel, or by cutting or rubbing the burnt brick with a sharp grit stone. Moulded bricks were used very extensively in England, and some examples of early work in the American colonies still remain, some good moulded bricks having been used on the early buildings at Harvard.

"Gauging," which included the rubbing and cutting to shape for voussoirs and mouldings of specially made soft bricks, was quite a common practice in England in the Seventeenth Century, and it was quite a feature in many of Wren's buildings. Carved bricks are generally believed to have originated in the Flanders and some most charming examples still remain, particularly in Bruges. The practice was introduced into England by Flemish workmen, and some very fine work was done in the Fifteenth and Sixteenth Centuries, using a brick of a soft cheesy type. Later, in the Seventeenth and Eighteenth Centuries, the builders built up blocks of soft bricks in ordinary brick units, with very fine joints laid in a resinous material so that the joints were almost imperceptible, and these were elaborately carved, forming Ionic and Corinthian capitals, swags and other ornamental forms.

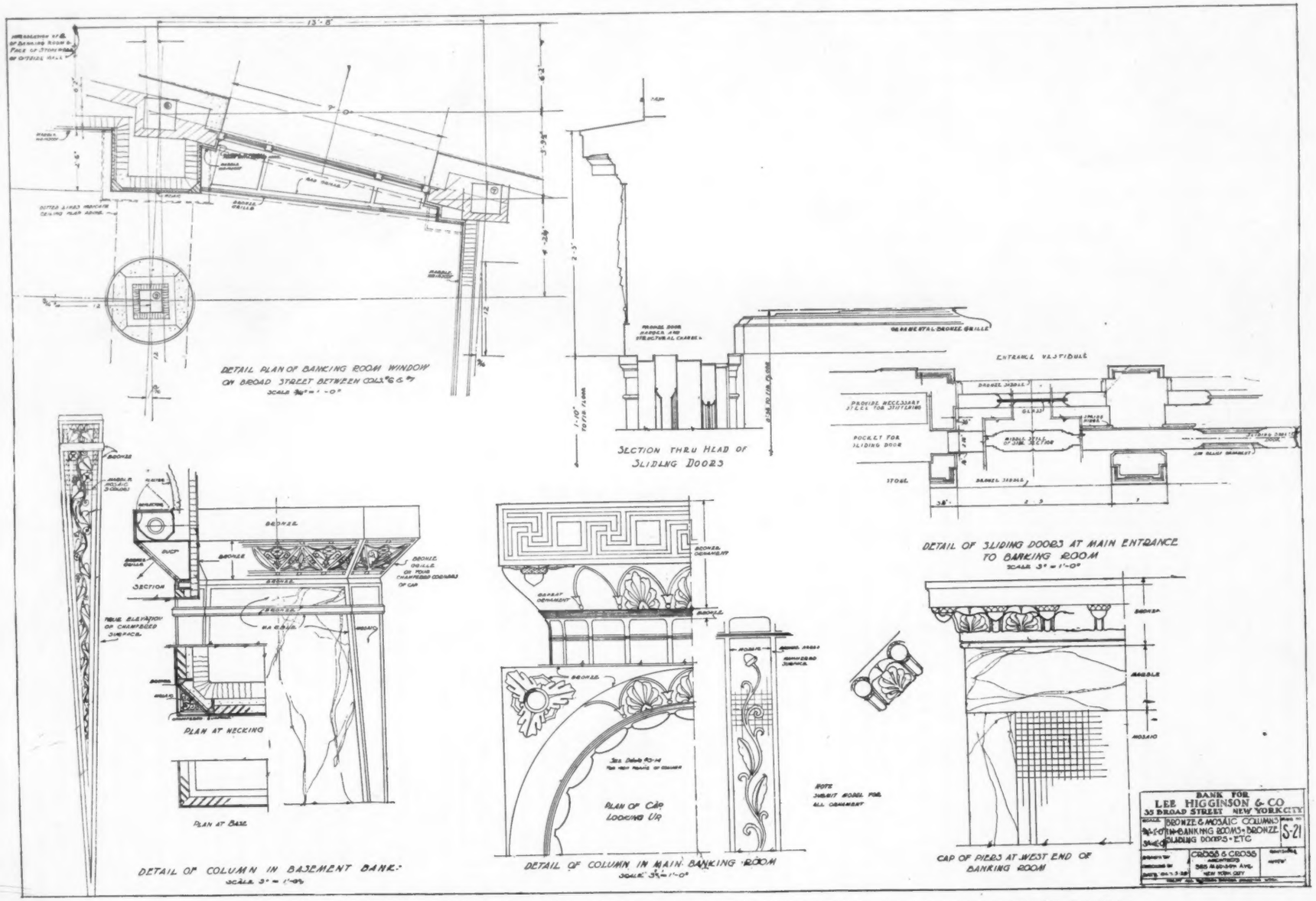
In this country the earliest brick carving so far as known was done on Sever Hall at Harvard, by H. H. Richardson, about 1880. The method employed in that work was to lay up the bricks in La Farge cement mortar, with the thinnest possible joints, and then do the carving. Some very charming carved brickwork has been done in this country of late years, one particularly interesting piece of work being the window arches on the Links Club in New York City. In addition to the enormous number of bricks made in this country, a large quantity is imported every year from Holland and Belgium. The Holland bricks have a very pleasing color and texture and make an interesting facing brick. The imported bricks, despite the high freight charges, are sold cheaper at the port of entry, for less than the local common bricks.

Terra cotta, meaning "baked earth," has been made and used as a building material for fully three thousand years, there being good evidence that it was used in Assyria as early as the Eleventh Century, B. C. The Greeks, the Etruscans and the Romans made use of it, and it was used in the building of the Great Wall of China about 300 B. C. The highest development of architectural terra cotta was undoubtedly in Italy during the Fourteenth, Fifteenth, and Sixteenth Centuries, during which time hundreds of buildings were built either wholly or in part of terra cotta, which included cathedrals, churches, palaces, hospitals and various buildings of lesser importance. One of the finest examples of terra cotta architecture in Italy, and probably in the world, is the Certosa at Pavia, built in 1396.

The earliest terra cotta used in England was in the Fifteenth Century, but its use did not become general until the reign of Henry VIII in the Sixteenth Century, when the Italian artists and craftsmen, who were brought into the country by the king, gave fresh impetus to the work. The use of terra cotta in England continued from that time up until the first quarter of the Seventeenth Century, when for apparently no good reason it died out, and was not used again until sometime about the middle of the Nineteenth Century, when it had a rebirth, and has been used more or less since that time.

The history of terra cotta in the United States is quite brief but, in my opinion, one of the brightest pages in our architectural history. About the earliest attempt in the manufacture of terra cotta, so far as there is any authentic record, was in New York City in 1853, when James Renwick, best known as the architect of Grace Church and St. Patrick's Cathedral, succeeded in interesting a manufacturer of sewer pipe in the proposition, and he made the trim for the Tontine Building, the St. Denis Hotel (still standing, although no longer used as an hotel) and three houses in West 9th Street between Fifth and Sixth Avenues, from Mr. Renwick's designs. Shortly after that time the capitals on the pilasters on the extension on the rear of the Massachusetts State House were made in a sewer pipe factory located somewhere in Massachusetts.

In the early seventies a terra cotta factory was established in Boston, and the terra cotta for the Boston Museum of Fine Arts, built about 1874 or 1875, was made there. This building was probably the largest terra cotta job executed in this country up to that time, and for some time after. This same factory also made the buff terra cotta frieze around the Pension Building in Washington, which was built about 1883. All of the foregoing work was more or less experimental and of a tentative nature,


DETAIL PLAN OF BANKING ROOM WINDOW ON BROAD STREET BETWEEN COLS "G & F"
SECTION THRU HEAD OF SLIDING DOORS
ENTRANCE VESTIBULE
DETAIL OF SLIDING DOORS AT MAIN ENTRANCE TO BANKING ROOM
SECTION
PLAN AT NECKING
PLAN AT BASE
DETAIL OF COLUMN IN BASEMENT BANK
PLAN OF CAP LOOKING UP
DETAIL OF COLUMN IN MAIN BANKING ROOM
CAP OF PIERS AT WEST END OF BANKING ROOM
BANK FOR LEE HIGGINSON & CO
35 BROAD STREET NEW YORK CITY
BRONZE & MOSAIC COLUMNS IN BANKING ROOMS + BRONZE SLIDING DOORS - ETC
S-21
CROSS & CROSS ARCHITECTS
385 MADISON AVE. NEW YORK CITY

**DETAILS OF CONSTRUCTION—BRONZE AND MOSAIC COLUMNS IN BANKING ROOMS, AND BRONZE SLIDING DOORS—BANK FOR LEE, HIGGINSON & COMPANY, NEW YORK**

CROSS AND CROSS, ARCHITECTS

*(See also page 880)*

and it was not until 1877 at Perth Amboy, New Jersey, that the manufacture of terra cotta was successfully started on a sound basis, and where it still continues up to the present time. Until 1879, practically only one color in terra cotta—red—was manufactured in the United States. In 1882 buff terra cotta was perfected, and in the same year the Atlantic Terra Cotta Company produced the first gray terra cotta for Stanford White. In 1889, white terra cotta was brought out, also for Mr. White.

Beyond the shadow of a doubt, no one man had a greater influence in the development of terra cotta than Stanford White; he had the prophetic vision, and Oswald Spier of the Atlantic Terra Cotta Company had the technical skill to carry out his ideas and to make dreams come true.

Terra cotta is made from specially selected clays, mixed with from twenty to twenty-five per cent of "grog," that is ground burned clay. This mixture of clay and grog is ground together, mixed with water, properly tempered in a pugmill, and then run into specially prepared moulds made from clay models, where the design is to be repeated, but where only one or two pieces are required they are made by hand. Terra cotta models are made to a scale of thirteen inches to a foot, due to the shrinkage of the material in burning. The ceramic finishes are applied to the "green" terra by spraying and the ware is burned in down draft "beehive" kilns, the burning taking from seven to fifteen days, dependent on the size of the pieces. The kilns have to be provided with muffles, so that the flames at no time touch the terra cotta. The various finishes in general use are "unglazed," made in the various shades of buff, gray, salmon, red, and brown, most of these colors being vitreous; "glazed" or "enameled" which has an impervious ceramic finish of a glossy texture, either glossy or matt, and made in variety of colors which is almost unlimited at the present time; "unglazed granite color," which is a mottled ceramic finish similar to unpolished granite; "glazed or enameled granite color" which is a mottled ceramic finish similar to polished granite, and made either in glossy or matt finish; and "polychrome" which has two or more colors on one piece, and may be either glazed or unglazed—for blended colors it must be glazed.

Polychrome terra cotta was originated and developed in the Fifteenth Century by Luca della Robbia, a Florentine, pupil of Donatello and Giberti, and was carried to its completion in the Sixteenth Century by his nephew, Andrea, and Andrea's son, Giovanni. After the death of Giovanni in 1527, the art, so far as Europe was concerned, was absolutely lost. The Chinese had worked in polychrome terra cotta, and as late as 1690, the polychrome terra cotta garden screen at the Winter Palace in Peking was produced, but the influence of China on Western art has always been, with very few exceptions, more or less negligible.

After a lapse of nearly four hundred years, the art of polychrome decoration of terra cotta was re-discovered and developed in the first years of this century. One of the early important pieces of work in polychrome terra cotta done in this country was the Madison Square Presbyterian Church, designed by McKim, Mead, and White, and executed under Mr. White's supervision. This building was completed in 1906 and was torn down in 1919, to make way for a very usual type of office building, which is now doomed to go, to make way for a one-hundred-story building, glorifying the business of the life insurance policy. In any other community except New York City, such a building would have been preserved by the city as an outstanding work of art. Fortunately the pediment panel designed by H. Siddons Mowbray and modeled by Adolph A. Weinman, has been preserved and built into the library wing of the Metropolitan Museum of Art, and the main entrance doorway has found a place in the Brooklyn Museum of Art and Science, while the major portion of the building has been rebuilt in Hartford, Conn., for *The Hartford Times*, so although not entirely lost its glory is gone forever.

At the present time it is possible to get a wide range of colors in polychrome terra cotta; reds, ranging from a pale pink to deep madder; blues from a light sky blue to cerulean and deep indigo; greens from light emerald to the dark olive shades, yellows from the pale shades suggesting Naples yellow to deep ochres; browns from café au lait to dark russet; light and deep purples of both red and blue cast; mauve, and naturally both black and white, the latter including several shades from pure white to a deep cream or buff white. By additional firings vermilion and gold glazes either matt or lustrous can be obtained, but these finishes are naturally quite expensive.

The newest development in the terra cotta industry, which has recently been put on the market is machine made terra cotta. This material is run through steam lubricated steel dies, then dried, sprayed, and burned in exactly the same manner as the more expensive hand made terra cotta. So far as I know, this material has only been used for facings and wainscots on interiors, but I can see no reason why it could not be used as a facing for exterior brick walls if anchored in the same manner as stone facings are.

Structural terra cotta, so-called to distinguish it from the architectural terra cotta, includes hollow partition blocks, furring, column casing, floor arches, hollow building blocks, and all similar material of a fire resistive nature. This material is strictly modern in its origin and had its inception in our present-day form of construction which called for a lightweight material which would resist fire; the answer was hollow terra cotta.

Hollow terra cotta blocks are made in three forms: "dense," "porous," and "semiporous." Dense terra cotta blocks are made from fire clay mixed with either potters' clay or a tough brick clay, moulded in dies, submitted to high pressure before burning and burned in "beehive" kilns. This material is very hard, quite brittle, but very fire resistive, more so than either the porus or semiporus terra cotta. Porous terra cotta blocks are made by mixing sawdust with pure clay and burning at a high temperature. This terra cotta will not break when heated and then suddenly cooled with water; nails and screws can be driven into it, and will hold almost as well as in wood. Semiporous terra cotta has about twenty per cent of pulverized coal mixed with the clay, which aids materially in the burning and renders it more or less porous. Hollow terra cotta blocks, or hollow tiles, as they are generally called, are scored on all four sides to give a good key for the setting mortar and plaster. Special tiles are now made, with one side smooth, for use in elevator shaft and dumb waiter shaft walls which are seldom plastered at the present time, for with the closed type of elevator cars, and the solid doors to shafts which are now being used, no one ever sees the back and sides of the shaft.

Partition tiles are made 12″ x 12″, and two, three, four, five, six, eight, ten, and twelve inches thick. Two-inch tiles are only used in closets and similar locations; three-inch tiles can be safely used for partitions up to twelve feet high; four-inch tiles for partitions up to sixteen feet high, six-inch tiles for partitions up to twenty feet high, and tiles thicker than six inches are seldom ever

CROSS AND CROSS, ARCHITECTS (See also page 880)

used, in fact in my experience I never remember seeing an eight-inch, ten-inch, or twelve-inch tile. Where vertical pipes or conduits are carried up in a hollow tile partition a special form of conduit tile is made, which avoids cutting the tile and makes a stronger, cleaner job. Furring tiles are made three inches and four inches thick deeply scored on both edges, so that they may be split on the job. Split furring tile must be anchored to the wall as they will not stand free. Book tiles which are regularly made three inches thick by twelve inches wide and varying from two feet to three feet in length are made with tongued and grooved edges on the long side, and are principally used for pitched roofs, being set between steel tees fastened to the steel framing of the roof.

Terra cotta floor arches are made both side and end construction, that is with the walls and ribs running parallel to the supporting steel, or at right angles to the supports, as the case may be. This form of construction has many good qualities, but for some reason, presumably cost, it is used very little in and around New York City, in fact I do not remember seeing a hollow tile job in the past five years. A very good system of hollow tile floor construction for long spans, consisting of specially designed blocks, with a very narrow reinforced concrete joist between them, is on the market, and appears to have considerable merit, if the cost is not prohibitive. Two of the most recent developments in the hollow tile industry are the "load bearing" tile, and the "back up" tile. Load bearing tiles are a type of hollow tile, made from special clays, and so designed that they develop a compressive strength equal to, and in some cases even greater than that of common brick work. These tiles are used for the construction of the exterior walls of wall-bearing buildings which are to be stuccoed, and some manufacturers are making an impervious tile, which can be left exposed and needs no stucco coating. Back-up tiles as their name would indicate, are used for the backing up of face brick work, and the outstanding feature of all types of this tile is that the brick facing can be bonded back into the tile work every sixth course. There are several types of back-up tile on the market at the present time, in side, end, and interlocking construction.

Among other terra cotta products which enter into building construction, but which the lack of space will not allow me to discuss even in the most abbreviated manner, are sewer pipe, land tile, flue linings and vitrified wall copings, all of which play their part, and are quite indispensable to the modern building.

*(To be concluded in the January issue)*

## SCIENTIFIC RESEARCH ON BRICKLAYING AT MELLON INSTITUTE

AN INTERESTING EXAMPLE of collaboration between scientist and artisan is found in the broad scientific study of bricklaying recently inaugurated by Mellon Institute of Industrial Research and the Eastern Face Brick Manufacturers' Association. The experiments are being carried out by Dr. F. O. Anderegg, Senior Industrial Fellow of the Institute's Multiple Industrial Fellowship on Portland Cement, and his assistants: architects, building contractors, and masons are aiding the work by contributing opinions and advice based upon experience.

So many varying factors are involved in the construction of a brick wall that it has been necessary to limit the experimental study to combinations of variables representing the probable range of practical application. Hundreds of thousands of experiments would be required if all possible combinations were to be studied. For this reason the research program has been under discussion for a considerable period of time, and the actual investigation was begun only when a satisfactory plan had been elaborated. Up to the present time some 300 experimental walls or panels have been erected on the grounds of Mellon Institute Building No. 2; a supplementary series will be constructed during the winter.

In brief, the investigation will cover certain aspects of all the factors involved in bricklaying. The most obvious points of attack are studies of the characteristics of different kinds of brick and mortar. Problems of special appeal to the practical man are those concerned with different methods of backing and with differences in workmanship. The design of walls and their relative elasticity are subjects which will be of considerable interest to contractors and architects.

Brick and mortar problems under investigation include the absorption and surface characteristics of brick, and differences in mortars due to varying the cementing materials, sand, and pigments. Properties of the mortars which are being studied carefully are workability, compressive and transverse strength, absorption and permeability, shrinkage, durability, staining and efflorescence, and elasticity. Information is being collected to determine whether the 10 per cent of lime often specified by architects or the 25 per cent or more usually employed by brick masons gives better all-round results.

The problems in backing include a study of hollow tile of different sizes, of brick, of cinder or concrete block, of brick tile, and of metal or other lath on steel frame. Variations in workmanship are most apparent in regard to tapping, pointing, and the filling of head-joints. The first mentioned subject is being studied, not only in regard to the effect of excessive downward tapping into place, but also in regard to plumbing both before and after initial set.

Among the most important problems of design are the nature of the backing unit and the method of connecting the face and backing. Coping and parapet construction are likewise being investigated. Capillary contact with the ground and condensation allow moisture to penetrate into the wall and must be guarded against. Finally, a study of special interest in this day of high buildings is the elasticity of walls of different types.

Special mention should be made of weather problems. The experiments have been planned for the purpose of investigating the behavior of mortar with reference to the other variables in all types of climatic conditions.

The whole study provides an additional instance of the manner in which scientific methods are adapted to everyday problems. Scientist and engineer, business man, architect, skilled workman, and laborer are all working together for the improvement of living and economic conditions of the world.

All results of this investigation will be published for the benefit of every one interested in building construction.

## MORE LETTERS CONCERNING THE ARCHITECTS' SMALL HOUSE SERVICE BUREAU

*(Continued from page 876)*

minor practitioner object the more? Are the clerks who meet the public in the offices of The Small House Bureau presumed to be more capable or better versed in architectural practice, better prepared to discuss a client's needs? Is there any guaranty that a prospective builder, under the guidance of such a clerk, who finds that the assortment of pictures submitted fails to include just what is being

sought, will be directed to a real architect? Is he not as apt to be turned over to some draftsman, perchance a direct employee of that branch of the Bureau?

"Is it not possible that the Institute, in its commendable but, possibly, misguided effort to assist that portion of the public who were not the direct clients of ninety-nine per cent of its membership, has, as a matter of fact, become godfather to a child that bids fair to appropriate all the mush-and-milk that should be the allotment of its own infants?

"Verily, there be at least two sides to the picture."

## A LETTER FROM A. K. ROOT, GENERAL MANAGER OF ACCESSORIES DIVISION, AMERICAN RADIATOR COMPANY

PENCIL POINTS.

GENTLEMEN:

Extract of a letter received from Dr. Oliver A. Lothrop, 151 Beacon Street, Boston, dated August 16th:

> "Last year I installed a new Gas Heater on my low pressure, single pipe vapor system. The radiators in the house were not changed. They were miscellaneous types of old steam radiators. Some were of your older models, both hot water and steam. One chamber had an old steam radiator of 48 ft. The steam filled this radiator satisfactorily but it was not large enough, as the room required about 65 ft. I then asked my steamfitter to put in a new radiator for me. He chose one of your new models of 72 ft., 12 sections, 5 columns. It was a hot water radiator and he told me you made no more steam radiators and could not get one.
>
> "This radiator did not heat the room as well as the old one, so I took this one out and put in a 6-column one supposed to give 84 ft. of radiation. This was only slightly better and I made the observation that *the steam entered the radiator, passed through the top and warmed and closed the air valve. It then heated the tip and worked down the sides, but the lower quarter never heated, except the two end sections.*
>
> "Evidently these water heaters, when used with steam or vapor, are not vented right and we get an air pocket and, therefore, do not get full value out of the size we order.
>
> "In a patient's house I visited, I noticed this same cold area. Mr. . . . . , an engineer I spoke to, said he had cases like mine and was relieved by tapping the radiator in a different place. This was tried on mine but helped only slightly because they had to locate the tapping in the middle connection between two columns, which is too high. *He now suggests that the only thing that can be done, if we cannot get a steam radiator, is to plug the next to the last section at the top—more expense and questionable result.*
>
> "All the trouble has cost me over a hundred dollars for a thirty-dollar radiator and nothing gained. That is why I am writing you for advice and help."

This letter is typical of thousands of cases where owners suffer because radiators on steam jobs do not develop their rated capacity—the reason being that they are air bound.

A few years ago, all principal radiator manufacturers standardized on water radiators for use on both water and steam. These have the section connected by the nipple both at top and bottom. The steam entering the radiator short circuits along the top nipple tier and closes off the Air Valve before the radiator is vented—leaving an air pocket that naturally prevents the radiator from working properly. Thousands of dollars have been spent unnecessarily by the trade who does not realize the cause of this trouble and who, accordingly, puts in extra sections, as in the case here recorded. A few wise contractors, who have discovered that their radiators were air bound, are resorting to the expedient of putting a blind nipple in the top of the next to the last section so as to divert the steam travel and protect short circuiting from closing off the Air Valve prematurely. This also is a cumbersome and expensive method.

Leading engineers have recognized this condition for some time, as evidenced by extracts here quoted from "Plumbers Trade Journal"—issue of November 15, 1928:

> "The use of hot water radiators for steam has brought up another refinement which is the use of some sort of stopper in the top port of the end section, as at D in the diagram. This directs the steam across the top and down into the end section, then up to the air valve at B. The original arrangement with the air valve at C is said to leave an air pocket in the heart of the radiator, as at D."

also from "Domestic Engineering"—issue of January 12, 1929:

> "Don't use hot-water pattern radiators for (one pipe) steam heating, unless the last section (end opposite the steam end) is connected up with a blind nipple on top. (Air Valve is closed by incoming steam or vapor from condensation before all of the air is out of the radiator, resulting in sluggish circulation.)"

For the good of the industry and for the protection of both the trade and the public, this subject should be given emphasis editorially by your publication. As indicated, there are several solutions to the problem. We think the best solution is found in the In-Airid Air Valve, which was designed specifically to meet the new venting problem when radiator manufacturers changed their practice and discontinued the manufacture of an independent steam type of radiation with nipple connections only at the bottom. It might be argued that we had a selfish motive behind this thought based on the more general use of the In-Airid Valve but the bigger idea is that the trade is in difficulty as are also architects and engineers and the public at large. Steam heating is being criticized unjustly and leaders of thought in our industry should undertake the education of the trade and show it the several ways out of the difficulty.

## ARCHITECTS' CLUB OF BROOKLYN

ON OCT. 21ST, a regular meeting of the Architects' Club of Brooklyn was held at the Brooklyn Edison Co.'s auditorium on Pearl Street. This was an unusual event on account of the Edison "Golden Jubilee."

The attendance was very large. Preceding the meeting a buffet supper was given by the Edison Co. The meeting was then convened and was addressed by Messrs. Harold and Balkan of the Edison Co., who extended their invitation to the architects and expressed their sincere wish to co-operate with them in matters pertaining to electric light and power. We were then addressed by Mr. D'Andrade of the Edison Co., who delivered a lecture on modern lighting, which was very interesting and left a lasting impression on all those present. He also expressed the desire of the company to help the architects and the public in solving their lighting and power problems.

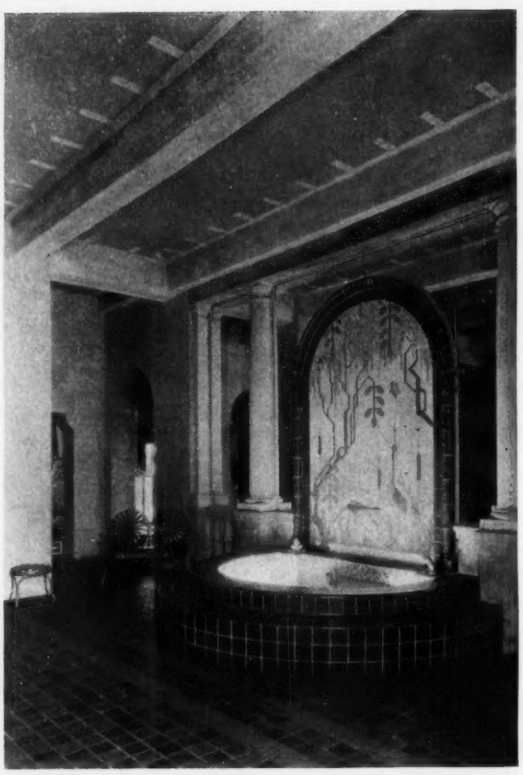
The regular meeting of the club then took place. Later we went to the electrical exhibit in the Edison offices.

*Above*
MAIN STREET
AND THEATRE

*At Left*
FOUNTAIN
OF LIGHT

*At Right*
ILLUMINATED
FOUNTAIN
IN LOGGIA

*Below*
SMALL
RESIDENCE
AND
DEPARTMENT
STORE
WINDOWS



VIEWS OF "LIGHTING INSTITUTE" AT GRAND CENTRAL PALACE, NEW YORK—F. P. PLATT AND BRO., ARCHITECTS

ART GALLERY AT LIGHTING INSTITUTE

F. P. PLATT AND BRO., ARCHITECTS

## A PERMANENT LIGHTING LABORATORY

A PERMANENT FREE EXHIBIT of extreme interest to all architects and specification writers is the Westinghouse *Lighting Institute* which has been in operation for some time at the Grand Central Palace on Lexington Avenue in New York. Within the limits of a complete floor in the building, occupying an area about equivalent to a city block, the architects for the job, F. P. Platt & Bro., built a street lined with typical small buildings such as might be found in any city—a small bank, a motion picture theatre, an art gallery, a garage, a residence, an electric merchandising store, a schoolroom, a florist's shop, a factory or shop building, a department store front, a loggia for a country club.

In each of these "buildings" they installed the most up-to-date and complete lighting and electrical equipment so that the observer can see in action all the modern lighting arrangements that are at his disposal when he has the problem of designing any one of these types of building. Technical information concerning lamps, fixtures, control apparatus, etc., can be obtained from the attendants upon request.

The Institute affords an opportunity for architects, specification writers, and draftsmen to acquaint themselves with a large variety of equipment and lighting apparatus in actual operation without having to spend a lot of time visiting different buildings. Incidentally there is a good deal of direct architectural interest in the show in seeing how the architects for the job solved some of the unusual problems which presented themselves.

The illustrations on this and the facing page give some idea of the scale upon which the Institute was constructed. It represents an investment of over half a million dollars.

## THOMAS HASTINGS

*(Continued from page 869)*

the palatial country house, of which the most notable examples are those of Mr. Murray Guggenheim at Elberon, N. J.; Mrs. C. D. Gambrill at Newport, R. I.; Commodore Benedict at Greenwich, Conn.; and H. M. Flagler at Palm Beach, Florida. His monumental works are all in a refined key, well studied, conservative of the principles of proportions as laid down by the authorities of the cinquecento in Italy who endeavored to fix standards by which art might be created or approximated by the use of rules. The pedestal to the Lafayette Monument in the Court of the Louvre at Paris; the excellent amphitheatre at Arlington Cemetery; the House of Representatives Office Building at Washington; the obelisks in the Circle at Buffalo; the William Cullen Bryant Memorial in Bryant Park, N. Y.; the improvement of the setting of the Washington Memorial column at Baltimore; the projected alterations to the United States Capitol building; the buildings at the expositions at Buffalo, St. Louis, and San Francisco; the New York Public Library; the City Halls at Portland, Maine, and Paterson, N. J.; Carnegie Foundation Building at Washington; Court House at Richmond, Staten Island; Bank of Toronto; and many other buildings accredited to Carrère and Hastings; as well as Mr. Hastings' more recent individual designs for the War Memorial Fountain projected for Central Park; War Memorial Arch and colonnade around Washington Square; all belong in the general classification of academic architecture albeit of a high type.

Mr. Hastings did not admire steel construction nor high buildings, regarding both as ugly expressions of greed. His early efforts in trying to decorate high narrow strips of building with late Renaissance motives as in the old Edison, Pierce, and Mail and Express buildings were all failures which he did not hesitate to describe as such. Of later designs his Transportation Building, Montreal, is the best.

Thomas Hastings was a descendant from early settlers in America on both sides of his family. His father, the late Rev. Dr. Thomas S. Hastings, was president for many years of the Union Theological Seminary in New York. He belonged to a number of the best clubs including the Knickerbocker, Century, and Piping Rock.

He received many honors in recognition of his work, among which were the Royal Gold Medal of the R.I.B.A., and the degree of L.L.D. from the University of Liverpool; also Mr. Hastings was a Member of the Institute of France and a Member of the Legion of Honor. He was a former president of the Society of Beaux-Arts Architects, Beaux-Arts Institute of Design, and of the Architectural League of New York, a trustee of the Academy of Arts and Letters, and of the Museum of French Arts, a Founder of the Federal Arts Commission, and during several years a director of the American Institute of Architects.

Mr. Hastings was an energetic, hard worker of quick aggressive personality, tempered by urbanity and enlivened by a ready wit supplied by a constant stream of irony. His philosophy was Aristotelian. As a man to work with he was joyous, highly amusing, and encouraging. Who that has ever worked in the office of Carrère and Hastings (and quite a number of his friends among young and able designers have done so) will ever forget his daily visits to each and his unfailing salutations, "Good morning. Oh, let's see this! That's nice, very *nice*. *Very* nice!" followed sometimes by a suggestion, a short discussion or criticism, pleasantly given, and his invariable parting words, "I like your architecture. Bully for you! Chouette!"

FRANCIS S. SWALES.

# SERVICE DEPARTMENTS

THE MART. In this department we will print, free of charge, notices from readers (dealers excepted) having for sale, or desiring to purchase books, drawing instruments and other property pertaining directly to the profession or business in which most of us are engaged. Such notices will be inserted in one issue only, but there is no limit to the number of different notices pertaining to different things which any subscriber may insert.

PERSONAL NOTICES. Announcements concerning the opening of new offices for the practice of architecture, changes in architectural firms, changes of address and items of personal interest will be printed under this heading free of charge.

QUERIES AND ANSWERS. In this department we shall undertake to answer to the best of our ability all questions from our subscribers concerning the problems of the drafting room, broadly considered. Questions of design, construction, or anything else which may arise in the daily work of an architect or a draftsman, are solicited. Where such questions are of broad interest, the answers will be published in the paper. Others will be answered promptly by letter.

FREE EMPLOYMENT SERVICE. In this department we shall continue to print, free of charge, notices from architects or others requiring designers, draftsmen, specification writers, or superintendents, as well as from those seeking similar positions. Such notices will also be posted on the job bulletin board at our main office, which is accessible to all.

SPECIAL NOTICE TO ARCHITECTS LOCATED OUTSIDE OF THE UNITED STATES: Should you be interested in any building material or equipment manufactured in America, we will gladly procure and send, without charge, any information you may desire concerning it.

*Notices submitted for publication in these Service Departments must reach us before the tenth of each month if they are to be inserted in the next issue. Address all communications to 419 Fourth Avenue, New York, N. Y.*

## THE MART

Prof. Earl D. Hay, Department of Mechanical Engineering, University of Kansas, Lawrence, Kansas, has the following copies of PENCIL POINTS for sale: June, 1920; February, March, and August, 1921; nearly all of volumes 4 to 10 of *The White Pine Series of Architectural Monographs.*

L. R. Johnson, 35 Strong Avenue, Babylon, N. Y., wishes to obtain copies of the January, February, and March, 1929, issues of PENCIL POINTS.

James L. Harrison, 1759 E. Kendale, Memphis, Tenn., has for sale the complete set of PENCIL POINTS unbound from Volume 1, No. 1, to the latest copy with the exception of the December, 1928, issue. He will not sell separately.

John G. Legel, Jr., 218 S. Main Street, Charles City, Iowa, has for sale the following copies of PENCIL POINTS: complete issues for 1926, 1927, and 1928, at $3.00 per year; also March, and December, 1925, also copies of the *Western Architect*, 1921 to 1928, inclusive, and miscellaneous copies of *The American Architect.*

Robert E. Williams, 1319 No. Second Street, Harrisburg, Pa., wishes to sell the following copies of PENCIL POINTS: 1920, November, and December; 1921, complete; 1922, complete; 1923, all except January and December; 1924, 1925, 1926, 1927, and 1928, complete; 1929, January, February, April, May, June, July, August, and September.

Harold L. Lynn, 206 Delaware Avenue, Charleston, W. Va., wishes to purchase a copy of the December, 1928, and January, 1929, issues of PENCIL POINTS, and will pay fifty cents a copy. He also has a copy of *Architecture* for November, 1928, for sale. Price $1.00.

A. L. Carter, 4840½ N. Ashland Avenue, Chicago, Illinois, has for sale a complete set of unbound PENCIL POINTS from June, 1920, to December, 1928, inclusive.

C. Engelkamp, 1813 Garrard Street, Covington, Ky., has the following copies of PENCIL POINTS for sale: August, September, October, November, 1921.

Proudfoot, Rawson, Souers & Thomas, 810 Hubbell Bldg., Des Moines, Iowa, have the June, and September, 1920, issues of PENCIL POINTS for sale.

Coffin & Coffin, 522 Fifth Avenue, New York, N. Y., wish to procure a copy of the February, 1928, issue of PENCIL POINTS.

S. J. Novotnick, 191 Fulton Street, Woodbridge, N. J., has the following books that he would like to exchange:—*Monograph of the Works of McKim, Mead & White*, 1879-1915, 100 plates; *Modern French Architecture*, 1899, edition with 97 plates of views. Both in excellent condition. *The Practical Requirements of Modern Buildings*, 1928 Edition; *Modern French Ironwork*, by Henri Clouzot, 1928 Edition, 36 plates 31″ x 18″; *The Monograph of the Works of Meller, Meigs & Howe*, 1923 Edition, 212 pages 12″ x 16″. These three are brand new. Will exchange these for the *Work of Charles B. Platt* or *Dwight James Baum*; or books on late Georgian, New England or Colonial architecture, also Elizabethan, Jacobean, Norman, or American Colonial, or any good architectural late editions on residences.

Jean C. Laing, Librarian, University of Toronto, Toronto 5, Canada, would like to have the following copies of PENCIL POINTS: June, July, August, and September, 1920; January, February, March, May, June, July, August, September, October, and November, 1921; all of 1922 except May and August; February, March, April, June, July, August, and November, 1923.

## PERSONALS

HOWARD B. PEARE, ARCHITECT, and President of the Westchester County Society of Architects, has moved from 11 North Avenue to 202 North Ave., New Rochelle, N. Y.

*(Continued on page 84, Advertising Section)*

*FREE EMPLOYMENT SERVICE ITEMS WILL BE FOUND ON PAGES 82 AND 84 IN THE ADVERTISING SECTION*

# Spandrels of Atlantic Terra Cotta

In appearance, in durability and in economy spandrels of Atlantic Terra Cotta meet every requirement.

Terra Cotta spandrels may be decorative or plain in accordance with the Architect's drawings.

Bronze, gold, silver, black, green, white, cream, buff, ivory, brown and, if desired, any brilliant polychrome combination may be used.

In durability Terra Cotta spandrels will outlast the building, and will never need painting or other renovation.

Atlantic Terra Cotta spandrels will cost less than spandrels of any other suitable material.

Atlantic Terra Cotta Company
19 West 44th Street, New York

Atlanta Terra Cotta Company
Atlanta, Georgia

# GUARDING THE INVESTMENT OF MILLIONS

Koppers Building, Pittsburgh

ATP Roofs, with or without bond, guarding the investment of millions of dollars, are on buildings like these from Maine to California and from the Great Lakes to the Gulf of Mexico.

Armored with gravel or slag against the elements, against fire and mechanical wear, leaving the pitch and tarred felt free to do nothing but keep out water, ATP Roofs are constantly the choice of more and more architects because they give longest life, lowest last cost and perfect security against water damage.

ATP Roofs are manufactured to specifications more exacting than U. S. Government Master Specifications by the only concern of its kind in the world specializing in built-up roofing. Whether bonded or not, the ATP Roof you specify will prove its right to be called "The Roof with the Long Life-Line."

AMERICAN TAR PRODUCTS COMPANY

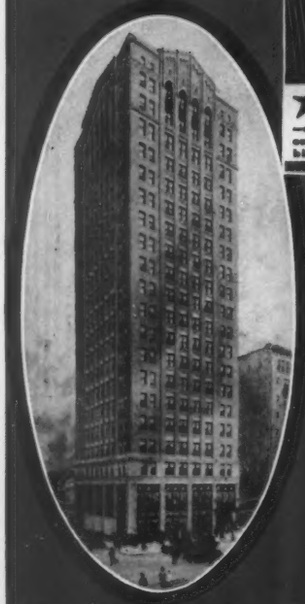
*General Offices:* Pittsburgh, Pa.

*New England Division:* TAR PRODUCTS CORPORATION
Providence, R. I.

*Plants* at Chicago, Jersey City, St. Louis, Birmingham, Milwaukee, Youngstown, O., Utica, N. Y., Providence, R. I., and Follansbee, W. Va.

Southwestern Bell Telephone Building, Dallas

★ Numerous *Pitch and Felt Roofs*, still in good condition, have stood severe service for from 25 to 40 —even 50 years—a record of service far out-classing any other type of built-up bituminous roofing known to man.



Rhodes-Haverty Building, Atlanta

Grant Building, Pittsburgh

Jackson-Franklin Building, Chicago

Above all— ATP ROOFS

ARMORED WITH GRAVEL OR SLAG

# PREFERRED..

## an office right under the roof

◆ ◆ ◆

***Comfort is assured for top-floor offices in this Kansas City skyscraper, and the reason is roof insulation.***

◆ ◆ ◆

TOP-FLOOR offices will be preferred space in the Southwestern Bell Telephone Building, Kansas City, Mo., for the rooms are always comfortable—warm in winter and cool in summer. Year-round comfort was provided by the architects, Messrs. Hoit, Price, and Barnes, when they specified insulation adequate to reduce heat leakage, out and in. The insulation used was Armstrong's Corkboard.

Armstrong's Corkboard Insulation insures ideal top-floor living and working conditions for many other office buildings, as well as for factories, apartments, and hotels. When used in adequate thickness, it makes the roof practically heatproof. For average conditions the proper thickness is one and one-half or two inches, and with Armstrong's Corkboard, these thicknesses are laid in a single layer, one operation, one labor cost.

Complete data on roof insulation will be supplied promptly on request. Armstrong Cork & Insulation Company, 902 Concord Street, Lancaster, Pennsylvania.

# Armstrong's Corkboard Insulation

***for the Roofs of All Kinds of Buildings***

# 72 SOUTHWESTERN BELL TELEPHONE BUILDINGS under Barrett SPECIFICATION ROOFS

SINCE October, 1922, Barrett Specification Roofs have been applied on 72 buildings of the Southwestern Bell Telephone Company. That these famous Barrett Coal-Tar Pitch and Felt and gravel roofs should be chosen for 71 repeat orders by one of America's greatest public utility companies is, naturally, not a matter of chance.

Telephone Company engineers demand roofs that do not leak, burn, crack or rot—roofs that will far outlast any ordinary roof. Trouble-free, expense-free service is their objective . . . their method of economizing.

When you specify a Barrett Specification Roof, you specify the highest quality of materials obtainable, *plus* expert application by Barrett Approved Roofers—men who have proved their ability to meet the high standards enforced by Barrett Inspection Service. You specify bonded freedom from roof annoyance for 20 years*—though the roof will probably live, whole and hearty, decades beyond the duration of the bond.

With a Barrett Specification Roof on your building, you are assured of the highest degree of water-safety and fire-safety. Barrett Specification Roofs carry the Class A—base rating—of the National Board of Fire Underwriters.

Barrett Approved Roofers, each one selected for his experience, ability and integrity, are invariably leaders in their cities. Consult with them or with us on any roofing problem.

*The Barrett Company also offers a Specification Type "A" Roof which is bonded for 10 years. This type of roof is adaptable to a certain class of buildings. The same high-grade materials are used, the only difference being in the quantities.

SOUTHWESTERN BELL TELEPHONE COMPANY BUILDING, Kansas City, Mo., *Architects:* Hoit, Price & Barnes, Kansas City, Mo. *Associate Architect:* Irvin R. Timlin, St. Louis, Mo. *General Contractors:* Swenson Construction Co., Kansas City, Mo. *Roofing Contractors:* Sellers & Marquis Roofing Co., Kansas City, Mo.

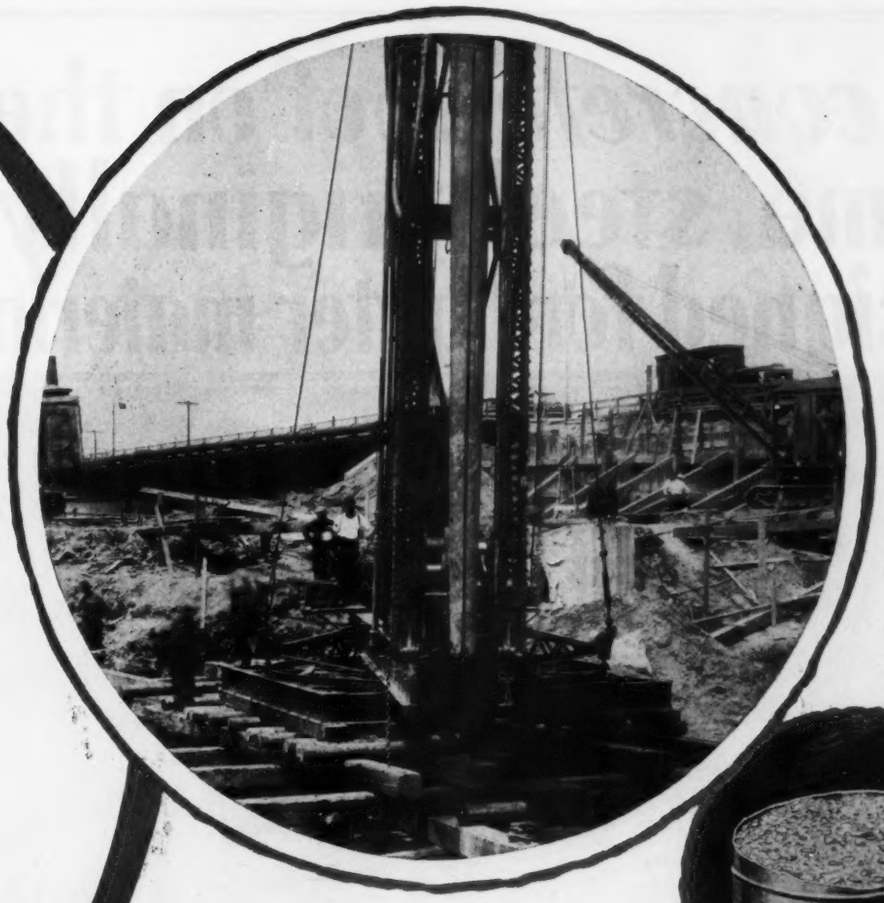
**BONDED BARRETT FLASHINGS**

Flashings are the most sensitive parts of any roof. Barrett Flashing Blocks and Forms are now bonded for 20 or 10 years when used with Barrett Specification Bonded Roofs. Barrett Approved Roofers will gladly tell you about this new feature of Barrett Roofing Service.

Barrett Specification Roofs

Inspected and Bonded by Barrett

THE BARRETT COMPANY, 40 Rector St., New York • *In Canada* • THE BARRETT COMPANY, Ltd., 5551 St. Hubert St., Montreal, P. Q.



*For this reason, too . . .*

**The value of the shell that is left in the ground on every Raymond tapering concrete pile lies, among other things, in its preservation of the concrete (that is poured into it) from admixture with ground water. In other words, keeping the water-cement ratio as the engineers desire it—a most important consideration and result.**

CAST IN PLACE PILES
COMPOSITE PILES
PRECAST PILES
PIPE PILES

*A form for every pile*
*A pile for every purpose*

BUILDING FOUNDATIONS
BULKHEADS AND DOCKS
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BRIDGES

RAYMOND CONCRETE PILE COMPANY

NEW YORK: 140 Cedar St. CHICAGO: 111 West Monroe St.

# Raymond

# A *concrete* roof on the same steel originally designed for lighter material!

## *Featherweight Concrete* INSULATING ROOF SLABS

The Globe Steel Tubes Company of Milwaukee found it necessary to use a very light construction for this particular building, and designed the structural steel roof framing accordingly.

When they heard of *Featherweight Concrete,* there was an immediate preference for it because of previous experience with permanent, fireproof, no-maintenance Federal Roofs.

A check-up of the steel disclosed that the design was entirely adequate for Featherweight Concrete—even though laid out originally for a less substantial roof material.

This light weight is but one of the many advantages of Featherweight Concrete Slabs. ***Over 2,500,000 sq. ft. have already been purchased***—by concerns like Inland Steel, International Harvester, Chicago, Milwaukee & St. Paul R. R., Bendix Aviation, and for the new Detroit Airport Hangar, the 124th Artillery and Naval Armories at Chicago, Auditoriums at Shreveport and Flint—and many more buildings.

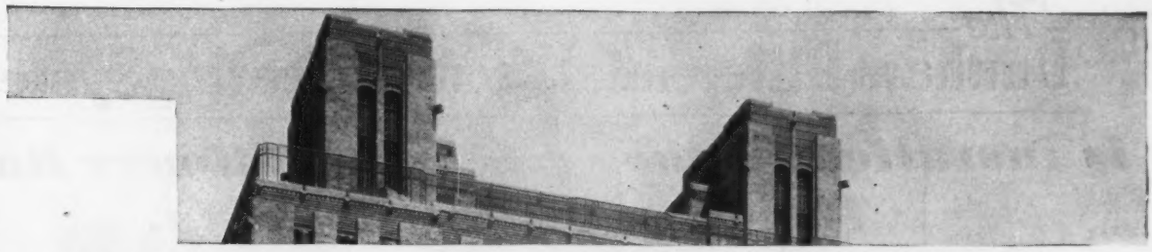
***New "Catalog and Roof Standards" now available on request***

*Made, Laid and Guaranteed by*

## FEDERAL CEMENT TILE COMPANY

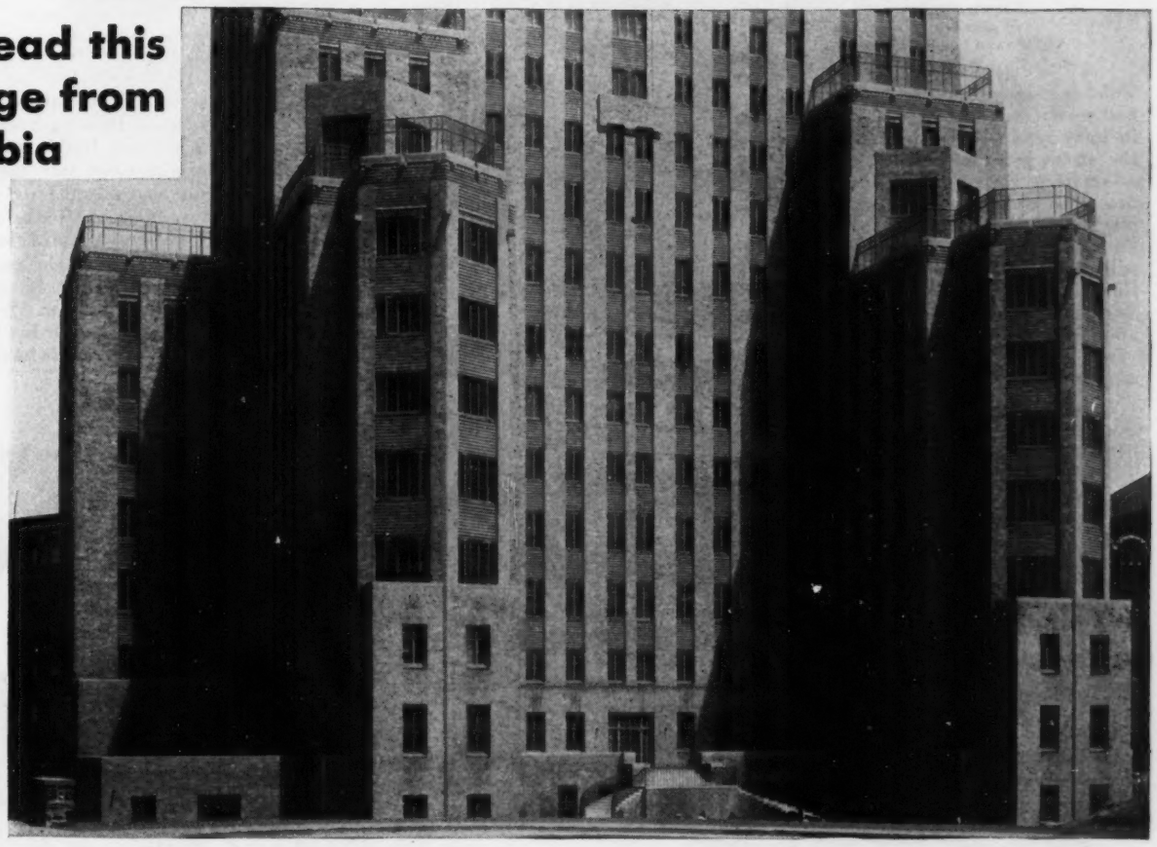
608 South Dearborn Street Chicago

FOR OVER A QUARTER CENTURY



# IF YOU BUY WINDOW SHADES

**read this message from Columbia**



THE NEUROLOGICAL HOSPITAL, New York City, is fully equipped with *Columbia* Window Shades. *Architects: James Gamble Rogers. Contractor: Marc Eidlitz & Son, Inc., New York.*

GUESSWORK should have no place in your window shade specifications. You want the finest, most economical shades your budget will permit.

This means *Columbia* Window Shades.

You can verify this if you will take the time to investigate them thoroughly.

Compare their record of honest service, long life and fine appearance with any window shade you have ever considered buying.

1. Make your own tests, no matter how severe, of the *Columbia* Roller for long life and reserve power.

2. Inspect *Columbia* Shade Cloth as carefully as you wish. We are proud of the fine materials and the thorough inspection we make at every stage of manufacture. For the result is—flawless, long-wearing shade cloth.

Before specifying or purchasing window shades, read the *Columbia* Window Shade Data Book and then you'll know what to look for in window shades. It's free—use the coupon below.

The *Columbia* Mills, Inc. 225 Fifth Ave., New York

Baltimore Boston Chicago Cincinnati Cleveland Dallas Denver Detroit Fresno Kansas City Los Angeles Minneapolis New Orleans Philadelphia Pittsburgh Portland (Ore.) Salt Lake City San Francisco St. Louis Seattle

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GUARANTEED

WINDOW SHADES *and* ROLLERS

*Send for your Copy of* "Window Shades"

This interesting book tells all about window shades, window shade rollers and roller brackets, approved methods of hanging window shades and suggests the most suitable type of shade for each kind of building. It also contains the useful "Standard Specification for Window Shades." For your copy mail the coupon to The *Columbia* Mills, Inc., 225 Fifth Avenue, New York City

Name.....

Street.....

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*Nationally Advertised—Used Everywhere in Beautiful Homes*

# The Dunham Differential Vacuum Heating System

## is installed in the Philtower Building Tulsa, Okla.

*Conceived and built by*
WAITE PHILLIPS
*Designed by*
KEENE AND SIMPSON
*in collaboration with*
EDWARD BUEHLER DELK

*General Contractors*
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WALTER GILLHAM
*Heating Contractors*
MACMAHON CO.

Tulsa is proud of the Philtower Building, and justly so. This superb edifice raises its lofty head twenty-eight stories above the street in a magnificent tower that exemplifies the modern setback type of design to the highest degree. It is significant that Mr. Phillips, the owner, and the builders of this structure, consulted with the building planning service of the Building Owners and Managers National Association and gave careful consideration to the association's advice in nearly every detail of construction and arrangement.

It is also significant that the Dunham Differential Vacuum Heating System was selected for the Philtower Building. The owner built into his project not only the finest of equipment, but also selected the type of heating system in which the tenants will find satisfaction from every angle of comfort and health. At the same time he (the owner) secures the utmost in fuel economy. In choosing the Dunham Differential System Mr. Phillips solved the heating problem for his building, just as many hundreds of others have done in similar structures.

**Look for the name DUNHAM**

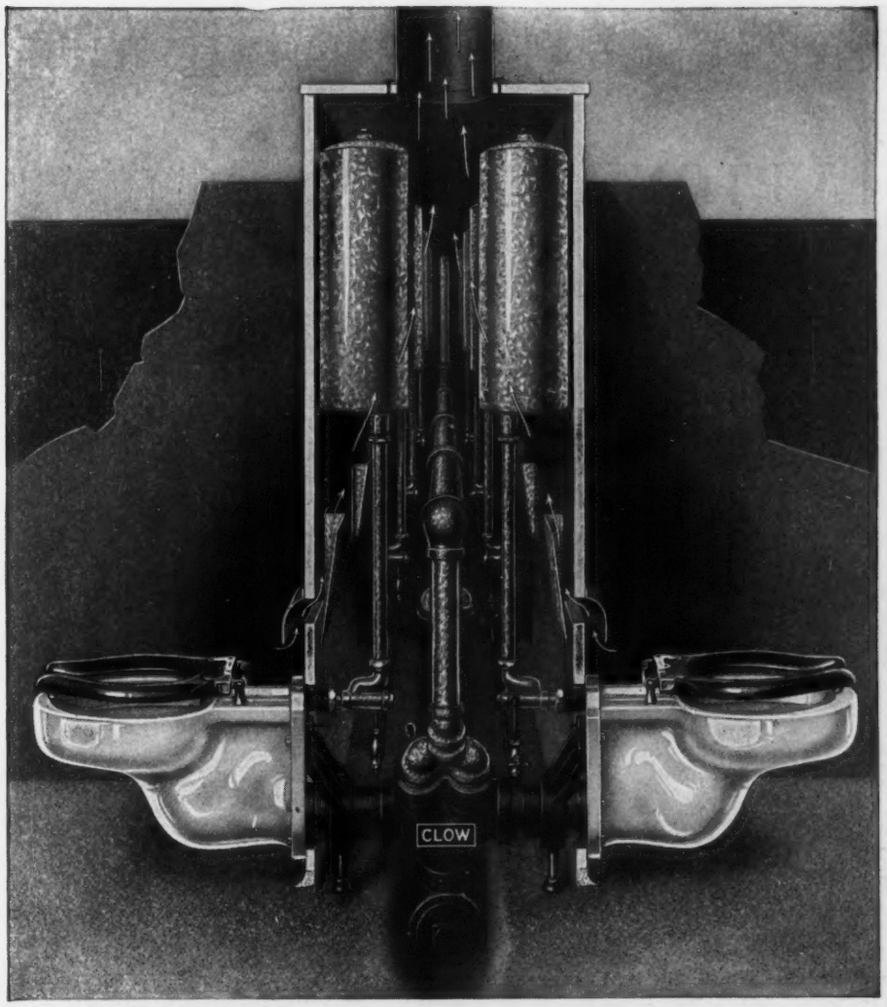
This nameplate identifies a genuine Dunham Thermostatic Radiator Trap.

# C. A. DUNHAM CO.

**Dunham Building, 450 East Ohio Street**
**CHICAGO, ILLINOIS**

*Over eighty sales offices in the United States, Canada and the United Kingdom bring Dunham Heating Service as close to you as your telephone. Consult your telephone directory for the address of our office in your city. An engineer will counsel with you on any project.*

The Dunham Differential Vacuum Heating System and individual parts of the apparatus used in that system are fully protected by United States Patents Nos. 1,644,114, 1,706,401 and 1,727,965, and Canadian Patents Nos. 282,193, 282,194 and 282,195. Additional patents in the United States, Canada and foreign countries are now pending.



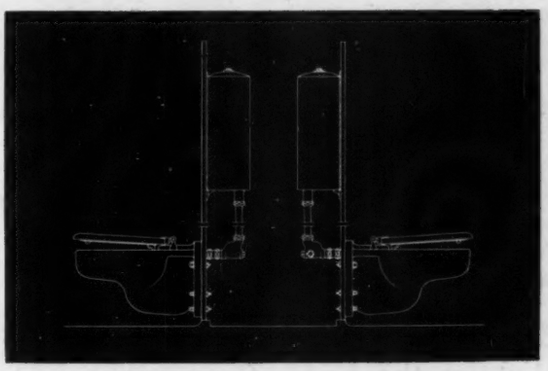

# AUTOMATICALLY FRESH AND CLEAN

## *with Clow Madden Wallomatics . . . and Clow Patented Ventilators*

Above is shown the application of the Clow Patented Closet Stall Ventilator. Through it, odors are drawn from the toilet room into the utility corridor—and carried off, at the outlet. It is so constructed that paper cannot be stuffed in to stop its action.

Automatically, closet rooms are fresh and clean.

And, independently of forgetful minds—Clow Madden Wallomatics send a powerful stream of water, cleansing the entire bowl after every use. There's nothing to touch. Nothing to remember. It's automatic.



**RECORD NO. 107**

26 years ago, 15 Clow Madden Automatics were installed at the May Street School, Benton Harbor, Michigan. In the past 6 years not one cent has been spent for repairs. No record was kept for previous years.

With Clow Madden Automatics, sanitation is assured for a quarter century and more—as installation records show.

For the Clow Madden Valve has only two moving parts—has no minute by-passes to cause trouble. Tests prove it uses less than half the usual amount of water, *for a surer flush.*

With Clow Patented Ventilators and Clow Madden Wallomatics, odor-free air and taint-free closets are automatically assured for the life of the building.

*(Center Illustration)*
*Showing how closed top tanks are concealed in utility corridor behind back wall. Clow Wallomatics are built free of the floor for cleaner toilet rooms.*

JAMES B. CLOW & SONS, 201-299 NORTH TALMAN AVE., CHICAGO

# CLOW MADDEN AUTOMATIC

*Forty-Eight Styles, Heights and Types to Meet Your Requirements*

# THE FINEST CRAFTSMANSHIP GOES INTO LUPTON HEAVY CASEMENTS

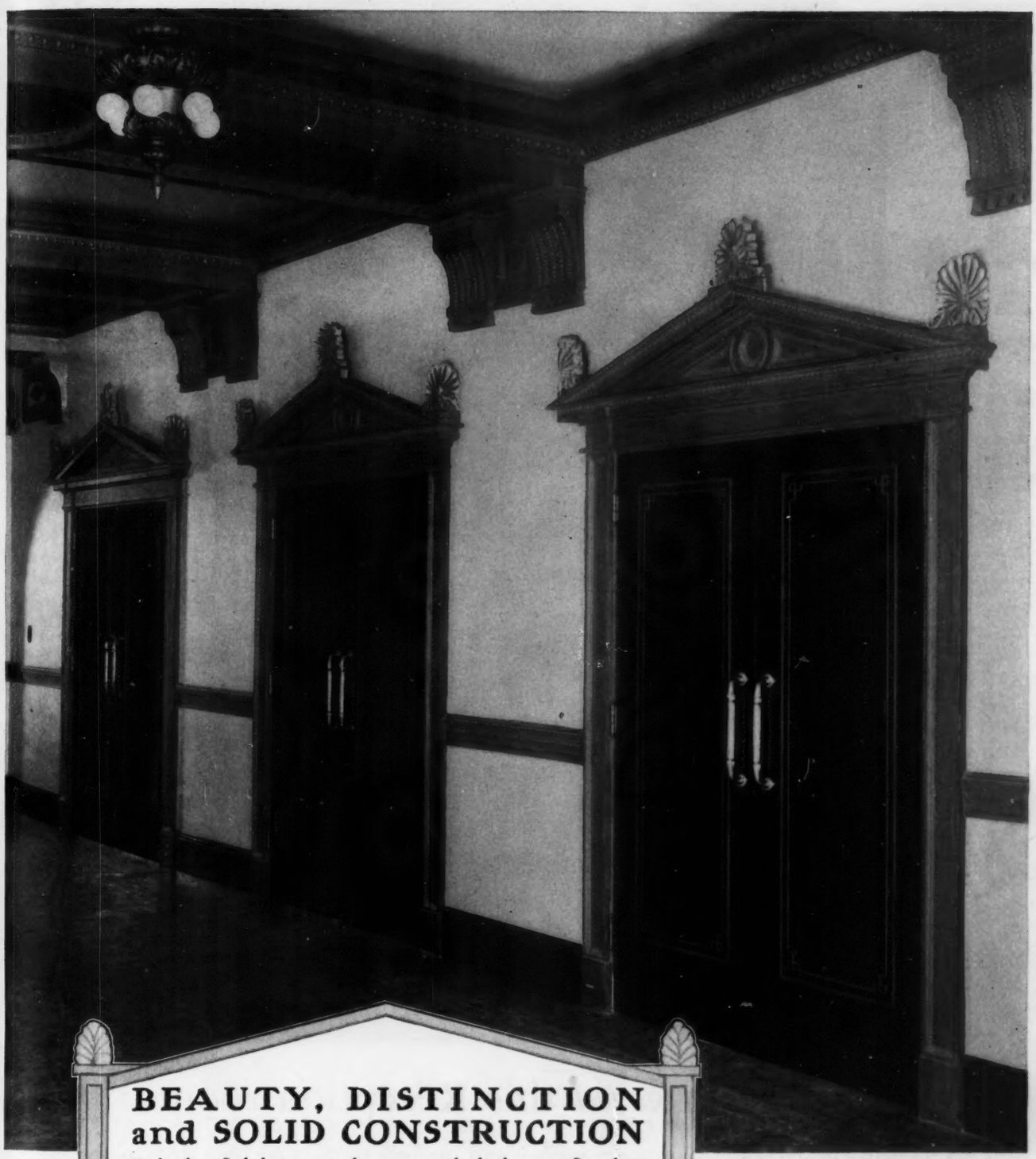
1400 *Lupton Heavy Casement Windows are used in the Cook County Court-house and Jail, Chicago, Ill. Eric Hall, County Architect. Great Lakes Construction Co., General Contractors*

HEAVY casements, more than any other type of window, are subject to the skill of the individual workman. At Lupton the best workmen are put on the heavy casement jobs. These men have served a rigid apprenticeship before working on these fine windows. Their craftsmanship, combined with the finest of machine-equipment, has made Lupton the first name in the heavy casement field.

The superior qualities of Lupton Heavy Casements have been recognized by leading architects. Whenever the finest is desired, Lupton Heavy Casements are usually specified. Complete details are available in your current edition of *Sweet's*. David Lupton's Sons Co., 2229 E. Allegheny Ave., Phila., Pa.

LUPTON

WHERE STEEL IS FUSED WITH SINCERITY



## BEAUTY, DISTINCTION and SOLID CONSTRUCTION

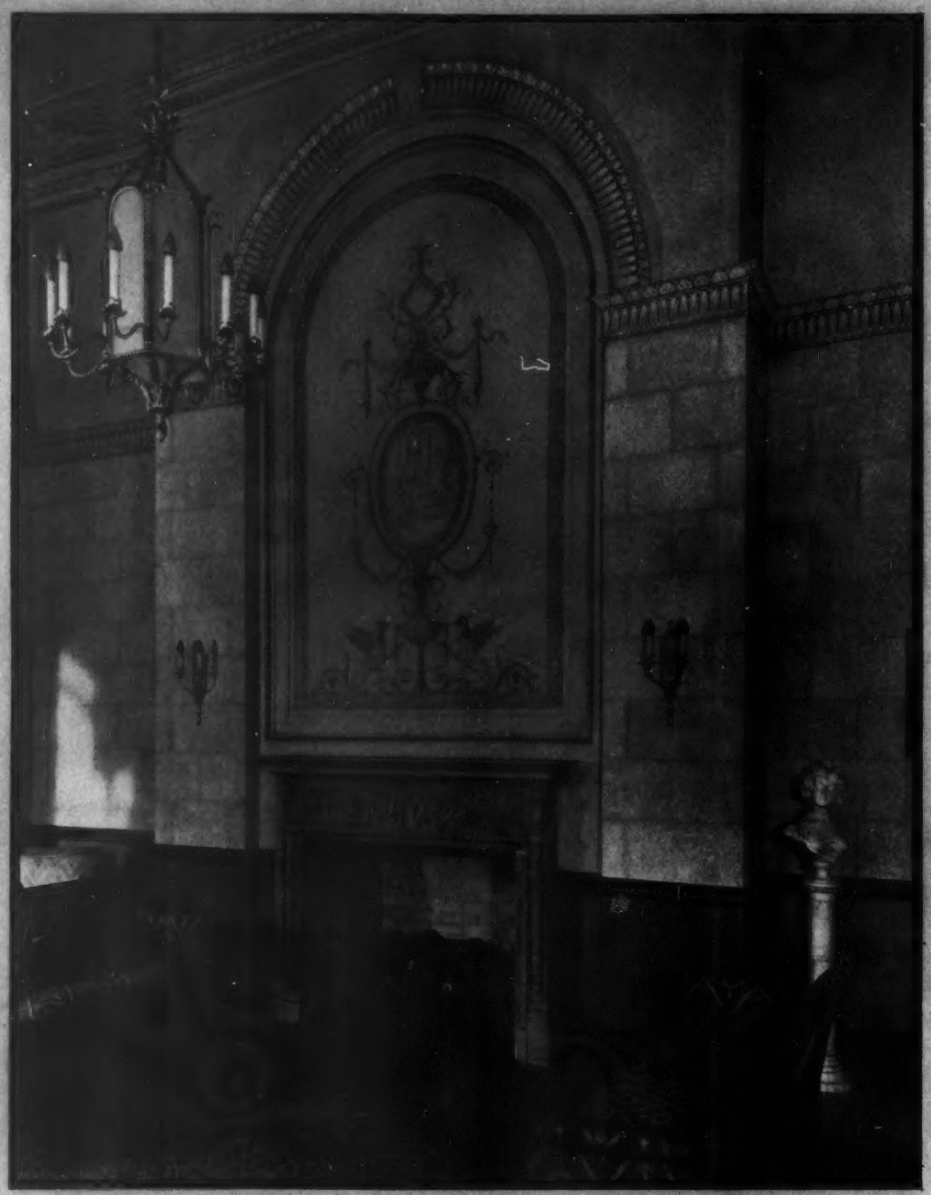
Rich, dignified design—in harmony with the beauty of modern architecture — is one of the leading qualities distinguishing the Roddis Flush Door. Basically, however, is its completely solid 5-ply construction; which insures permanency of beauty and everlasting door service. The new Roddis catalog interestingly explains Roddis superiorities in detail: sent on request.

RODDIS LUMBER & VENEER CO., 128 Fourth St., Marshfield, Wis.
Distributors In All Principal Cities
Manufacturer of Flush, French, Panel & Custom Built Doors

**Roddis Flush Doors in Science Church, Stockton, Cal. . . . Allen & Young, *Architects***

This Red-White-Blue Dowel Trade Mark is on the edge of the Roddis Flush Door. It is the Roddis mark of identity and quality.

# RODDIS FLUSH DOORS



*Zenitherm Wall in reception room, Stark County Tuberculosis Hospital, Louisville, Ohio. Albert L. Thayer, Architect*

# Zenitherm *keyed* this Reception room

TO plan a hospital reception room without the usual austere and forbidding atmosphere was architect Thayer's aim. He keyed this cheery, rest-inviting room by using Zenitherm in warm, golden tones on the walls, with a colorful panel over the fireplace. Zenitherm was delivered to the job already cut in blocks 5/8" thick, and nailed to furring just like wood. Zenitherm is now made in a range of 21 colors. Glad to send you samples showing the variable texture and tri-toned effects.

ZENITHERM COMPANY, INC., 110 E. 42nd St., N. Y. City. Kearny, N. J., Philadelphia, Boston, Chicago, San Francisco.

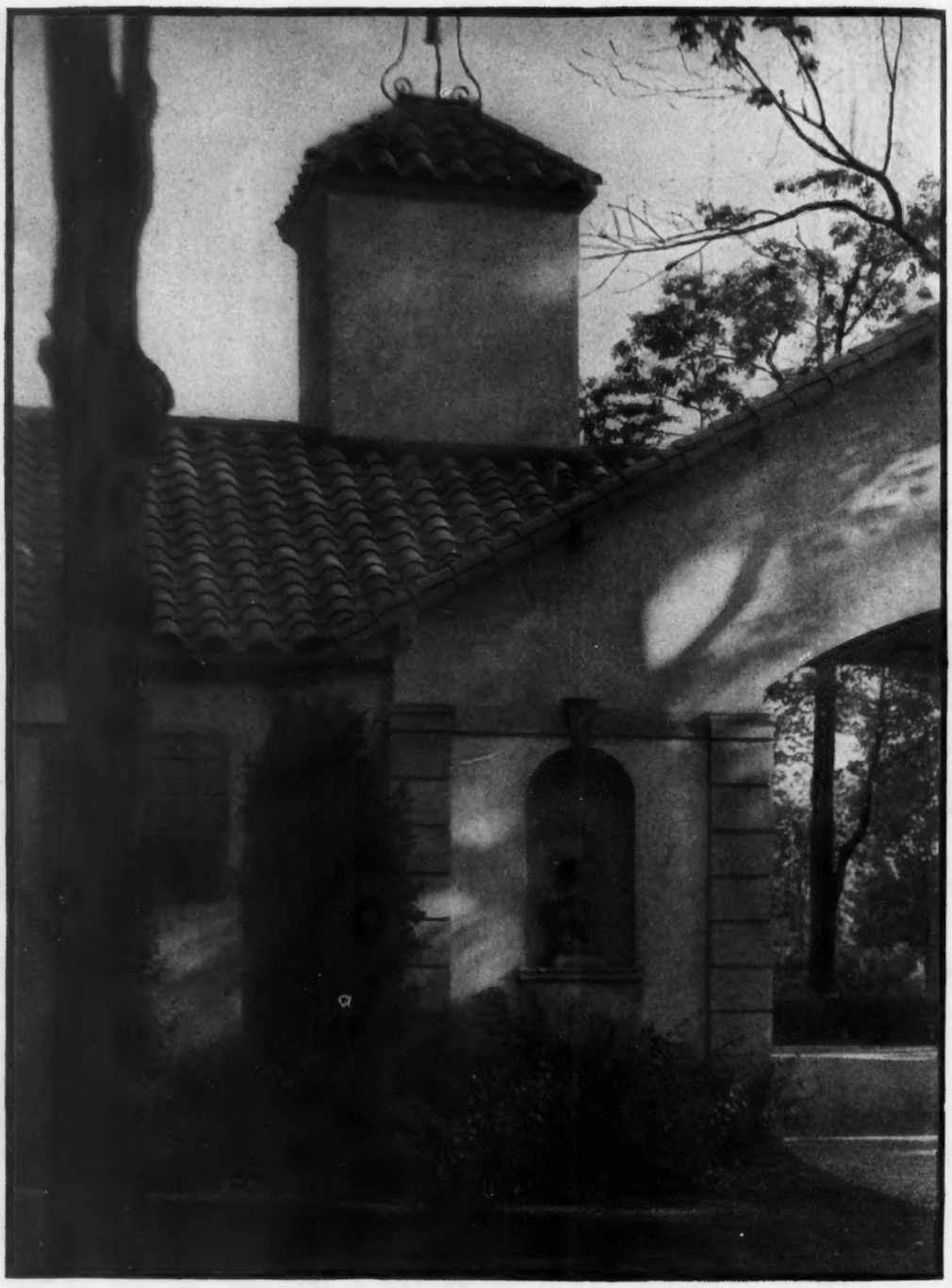
**ZENITHERM—for Walls and Floors**

# NORTHWESTERN TERRA COTTA

Civic Opera Building, 20 Wacker Drive, Chicago. Graham, Anderson, Probst & White, Architects. All facades are embellished and enriched with Northwestern Terra Cotta—to the extent of nearly all decorative detail—over 33% of the superficial area of the building. Terra cotta provides desirable ornamentation at low cost because units can be repeated indefinitely and exactly from one fine master model.

## THE NORTHWESTERN TERRA COTTA COMPANY

DENVER. ST. LOUIS. CHICAGO CHICAGO HEIGHTS



● This charming gate lodge, the residence and other buildings on the estate of Mr. Melville N. Rothschild, Glencoe, Illinois, are roofed with IMPERIAL Straight Barrel Mission Tiles in a mixture of light and dark sage browns. These tiles are most appropriate to the Italian style of architecture, and will provide years of protection without repairs. Earl H. Reed, Jr., of Chicago, was the architect.

**LUDOWICI-CELADON COMPANY**

***Makers of IMPERIAL Roofing Tiles***

CHICAGO: 104 SOUTH MICHIGAN AVENUE

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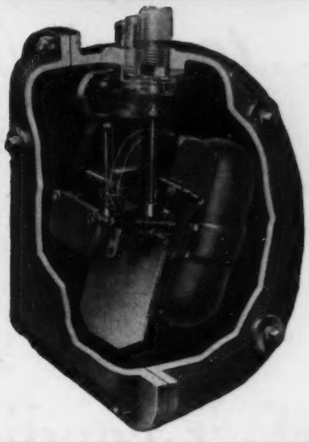
William Hanley residence, Indianapolis, Indiana
Robert Frost Daggett, Architect, Indianapolis, Indiana
W. H. Johnson & Son Company, Heating Contractors, Indianapolis, Indiana.

Read A. Dimmock residence, Vestal Road, Binghamton, N. Y.
Charles H. Conrad, Architect, Binghamton, N. Y.
Gaylord & Etapence Co., Heating Contractors, Binghamton, N. Y.

Marshall J. Eogland residence, Ledgewood Road, Winchester, Mass.
Allen E. Boone, Architect, Winchester, Mass.
Ingalls & Kendricken, Inc., Heating Contractors, 14 Chardon St., Boston, Mass.



**WEBSTER BOILER RETURN TRAP**

Made in five sizes for jobs up to 16,000 sq. ft. Easily installed. Interior mechanism suspended by two cap screws on outside of casing at top. Float mechanism turns about monel metal shaft. Float has no exposed seams. Provision for silencing includes stainless steel cantilever leaf spring in smaller sizes and dash pot in larger sizes. All metal valves with loose connections prevent jamming and leakage. Dirt strainer on steam line from boiler protects the mechanism.

# *When designing homes like these—*

Webster Type "R" Systems of Steam Heating are growing in favor with leading residential architects for service in finer-type homes. The introduction of oil and gas fuel and the newer light-weight types of radiation have created new problems—particularly in the proper control and distribution of heat. The increased use of the Webster Type "R" System in residence heating has been due to the fact that it meets these new problems with complete success.

*Safety* is achieved through gravity operation with positive equalization of pressure. *Dependability*—an in-built characteristic of all Webster Equipment—is outstandingly evident in the type "R" System. *Flexibility* for response to changing demands is at a maximum.

Before preparing plans for *your* next fine residence, have the nearest Webster Branch Office tell you how you can have a Type "R" System burning oil or gas and controlled by a thermostat in a "key room", and nevertheless be assured of *even distribution*. This new improvement will appeal to your client.

*-since 1888*

**Webster**

**Systems of Steam Heating**

WARREN WEBSTER & COMPANY
Pioneers of the Vaccuum System of Steam Heating
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*Branches in 52 principal U. S. Cities*
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Please mail Bulletin B-600, describing the Webster Type "R" System of Steam Heating to

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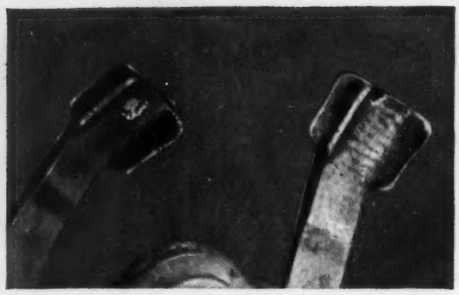
Name..... Street..... City.....

# SEE what happens

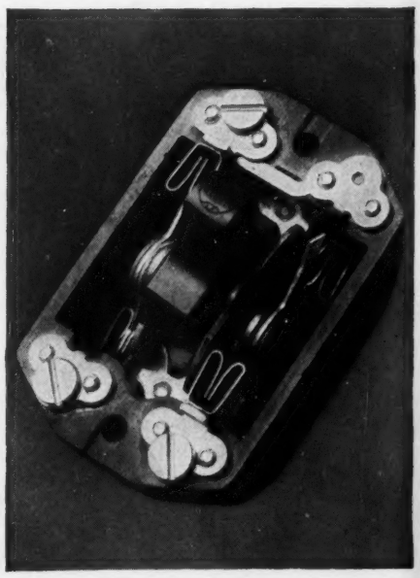


## ..to switch contacts not designed for type "C" lamp service

# ..SEE

## the perfect condition of the new Hubbell Switch Contacts

*They have undergone the same service ...but their design prevented ruinous burning at the "make"...*



*The new Hubbell Toggle Switches incorporate a radically new form of contact spring scientifically designed so that two different rates of vibration are set-up in the spring; one tending to counteract the other. Thus recoil is practically eliminated in the ends of the contact spring when the solid metal contact blade strikes between them. As a result, burning and pitting of the spring is prevented —even when in circuit with type "C" lamps.*

THESE PHOTOGRAPHS tell more forcibly than words the reason toggle switch contacts must be designed with type "C" lamp service in mind.

The standard type contacts shown at the top were removed from a Single Pole and a Double Pole switch after less than one year's service in circuit with type "C" lamps. They are practically destroyed. In a very short time they would break down completely under the heavy load of burning, fusing current at the instant of "make".

Now examine the new type Hubbell contacts in the switch at the right. They are in perfect condition, yet this switch has undergone exactly the same service which destroyed the "old" type of contacts. A radically different design provides for severe service. Burning of contacts at the "make", the chief cause of toggle switch trouble, is entirely overcome.

You will find much of interest in a detailed description of the *complete line* of new Hubbell Shallow Flush Toggle Switches. To obtain it — just clip the lower right corner of this page to your letterhead.

HARVEY HUBBELL, INCORPORATED
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Boston, Mass., 176 Federal St.; Atlanta, Ga., H. C. Biglin, 138 Marietta St.; New York, N.Y., 122 E. 42nd St.; Chicago, Ill., 318 W. Washington St.; Denver, Colo., T. H. Bodfish, 1109 Broadway; Philadelphia, Pa., Fifth St., Phila. Bourse, Exhibition Dept.

HUBBELL
*Toggle Switches*

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## —*the original* NAILING CONCRETE BASE —*for roofs and floors*

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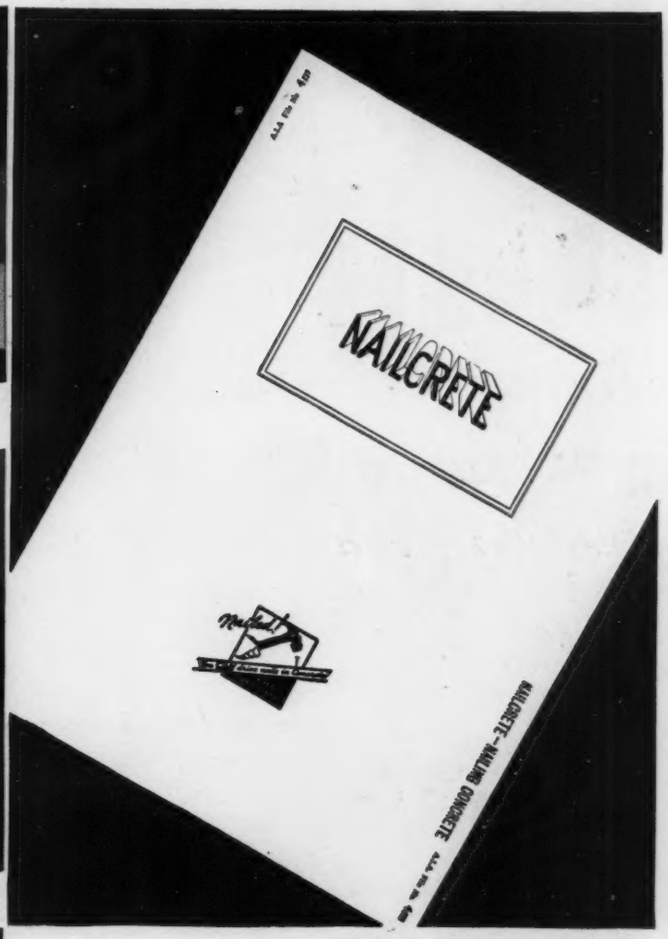


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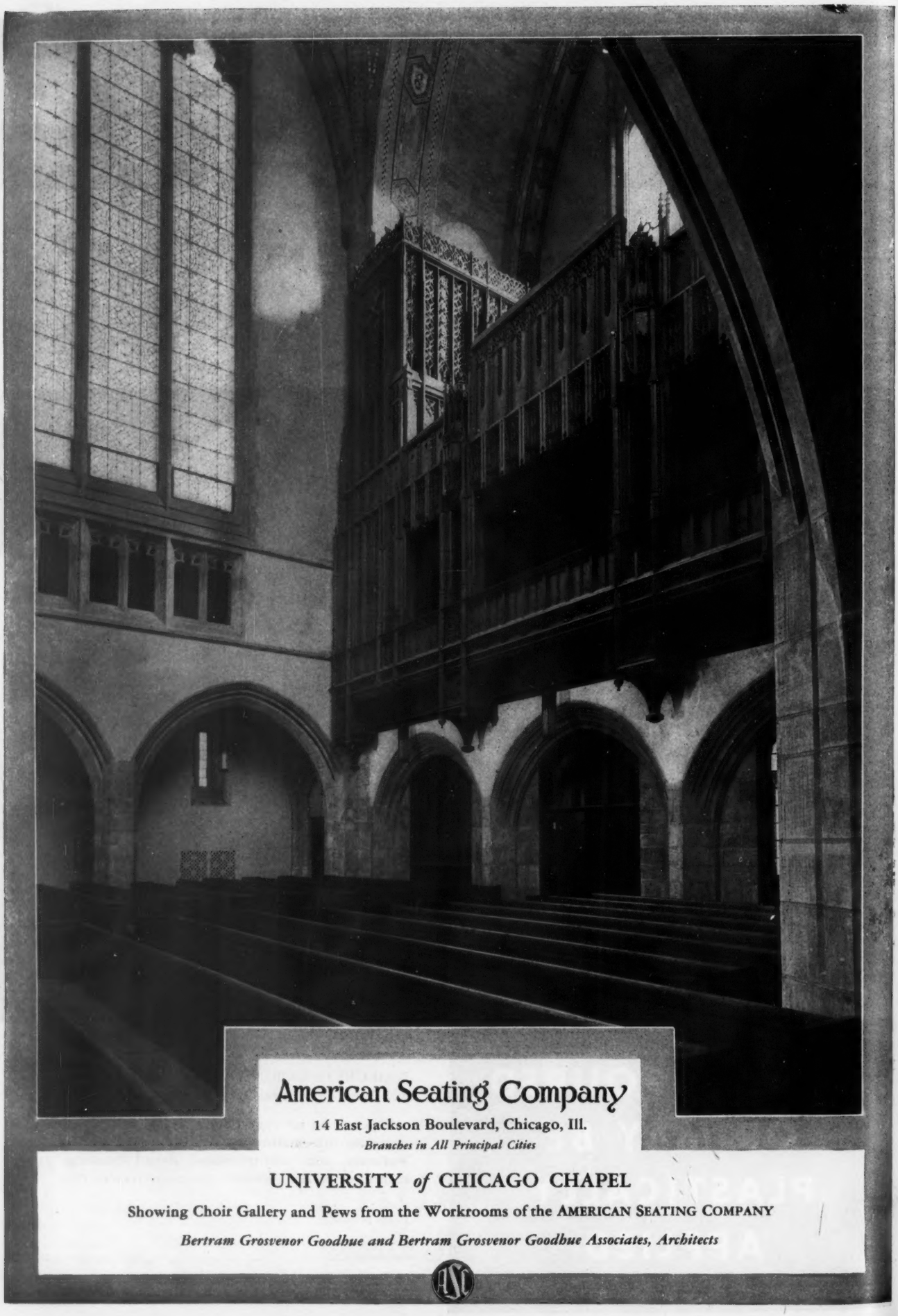

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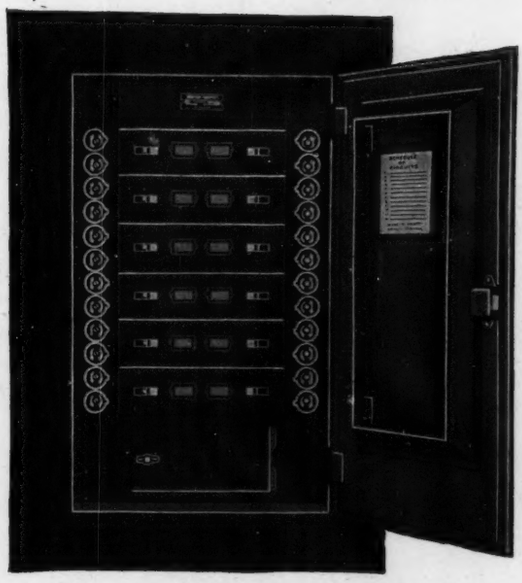

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IT IS easy to understand why an ever-increasing number of fine homes are being built with concrete masonry walls and concrete floors. This type of construction not only assures utmost durability and strength, but—of even greater importance to the owner of every fine home—*Firesafety!*

Here is complete protection for your investment in the home itself, and its furnishings. Rare libraries that can never be replaced, costly rugs and tapestries, prized trophies and mementos of earlier years—for the loss of these no insurance can adequately compensate. They must be *safeguarded* from fire.

Then, too, there's the peace of mind which firesafety creates — entire freedom from anxiety. Fires that originate in the basement—and many of them do—are completely isolated from living quarters by a concrete first floor. Loved ones are assured utmost protection.

Another feature of this modern construction is its resistance to extremes of heat and cold. A concrete masonry wall (built of *hollow* concrete units) is virtually *two* walls, with insulating air space between outer and inner surfaces. Homes thus protected may be kept delightfully cool on summer's hottest days. With a smaller expenditure for fuel than is customary, they may be kept comfortably cozy in the zero cold of winter.

*Residence of Col. Edwin S. George, Bloomfield Hills (Detroit), Michigan. Geo. D. Mason & Co., Detroit, Architects. I. J. Isgrigg, Pontiac, Michigan, Builders.*

*Another view of the Col. George home. Walls are largely of concrete masonry. Exterior is of portland cement stucco, brick, and stone trim. With reinforced concrete floors throughout, this residence is as nearly firesafe as it can be built. It replaces one destroyed by fire.*

**PORTLAND CEMENT**

**CONCRETE FOR PERMANENCE**

*Residence of P. D. Houston, Bellemeade (Nashville), Tennessee. Biglow & Henthorn, Architects. Rock City Construction Co., Builders.*

When to these qualities are added the strength and remarkable durability of concrete masonry, its ever-increasing use in the construction of fine homes and country estates is simply a matter of course.

During recent years the manufacture of concrete masonry units has been developed with particular regard for the needs of home building. These units are made by mixing portland cement with water and other suitable materials such as sand, pebbles, crushed stone, cinders, burned shale, or slag. Necessary standards of size and quality are everywhere carefully maintained.

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This stability and permanence of concrete masonry; the distinctive exteriors made possible with the varied textures and color tones available in portland cement stucco; the beauty of concrete floors, treated in any one of many charming ways—these are matters of the greatest interest and importance to every fine home builder.

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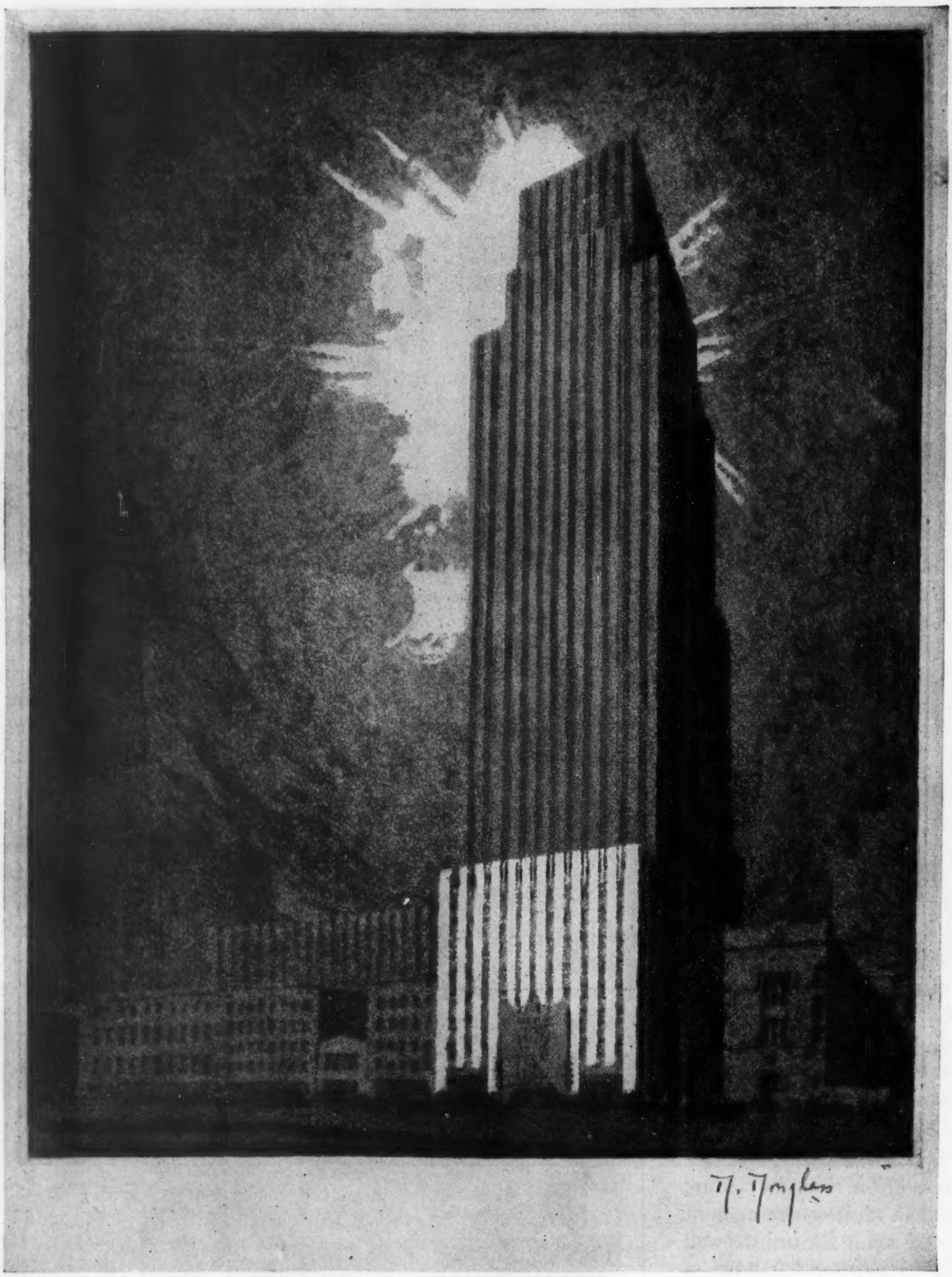
*The Houston home has concrete masonry walls throughout, with white portland cement stucco exterior. Reinforced concrete floor above basement, which extends under a part of the home only.*

ASSOCIATION *Chicago*

. .AND FIRESAFETY



Aquatint study of the News Building, New York, N. Y. ⌒ John Mead Howell and Raymond M. Hood, Architects ⌒ Hegeman Harris Co., Inc., General Contractor ⌒ Alvord & Swift, Heating Contractor ⌒ John McMillan Co., Inc., Plumbing Contractor. Jenkins Valves are used for both the heating and plumbing of this new building. Jenkins Bros. ⌒ New York ⌒ Boston ⌒ Philadelphia ⌒ Chicago . . . Jenkins Bros. Ltd. ⌒ Montreal ⌒ London.

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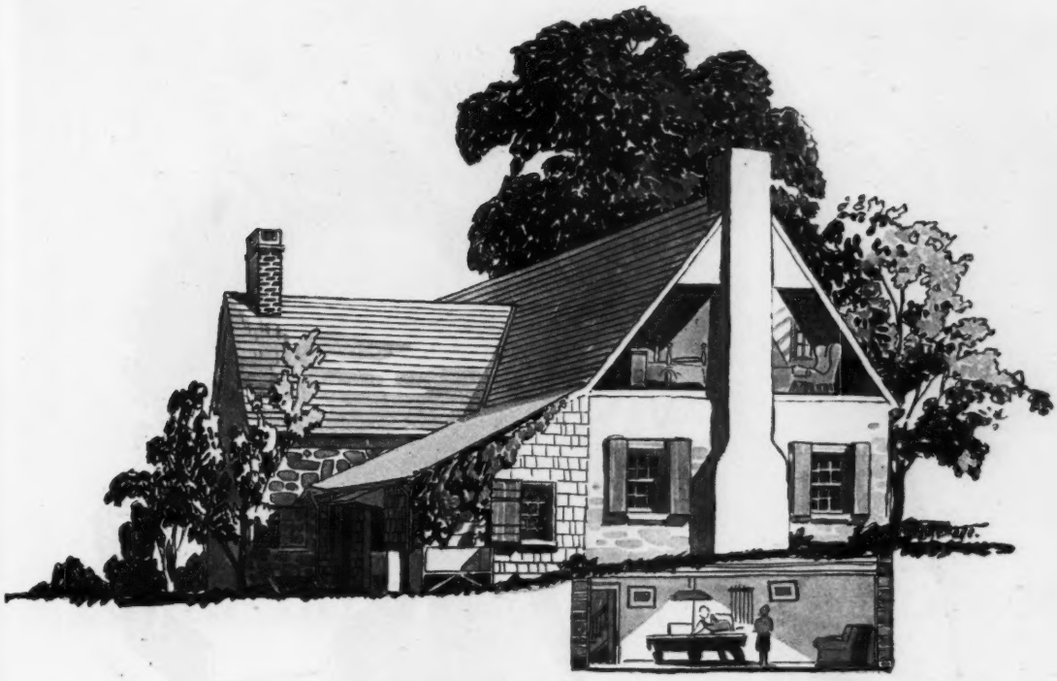

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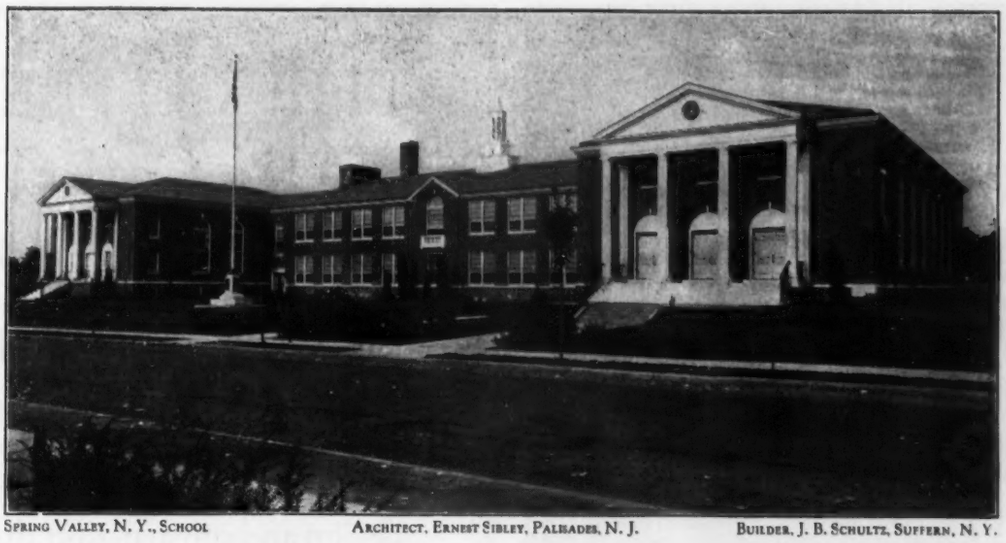

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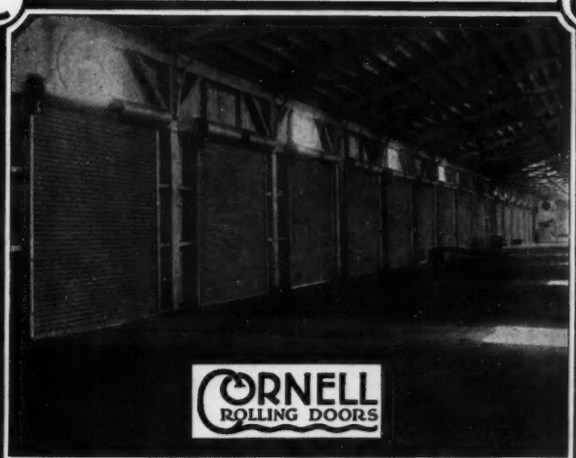


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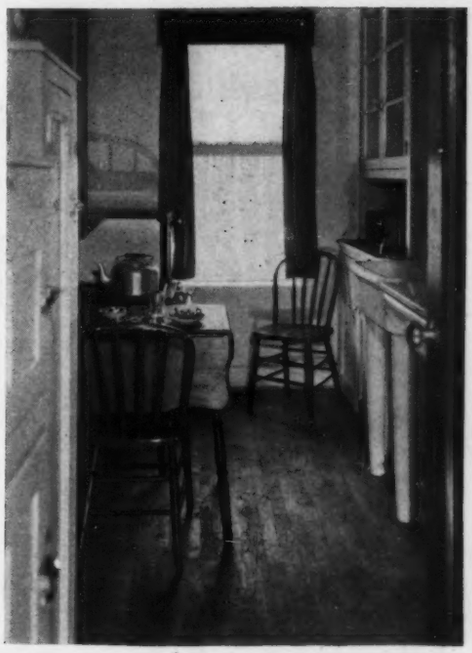

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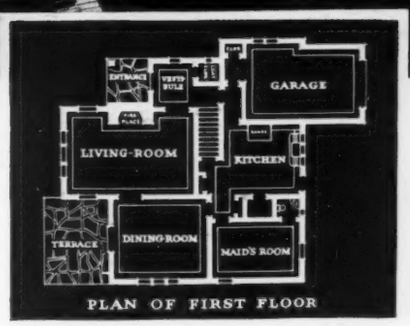


LIVING-ROOM AND PLAN OF FIRST FLOOR. ENGLISH COTTAGE BY ARCHITECT WILLIAM CLIFFORD, JR. THIS FLOOR IS ARMSTRONG'S LINOLEUM, NO. 6042.

PLAIN walls with ceilings structurally simple characterize the English cottage. Interesting, the effect, but lacking in vitality if based upon a plain floor—lacking in what this color-conscious day calls zest, pep, verve! First visualize the appearance of the room on this page with a plain monotone floor. Then compare with that picture, this other. Put a modern floor of colorful Armstrong's Linoleum in this room and notice the effect. No loss of the essential air of quaint countryside quiet—rather the emphasis of contrast.

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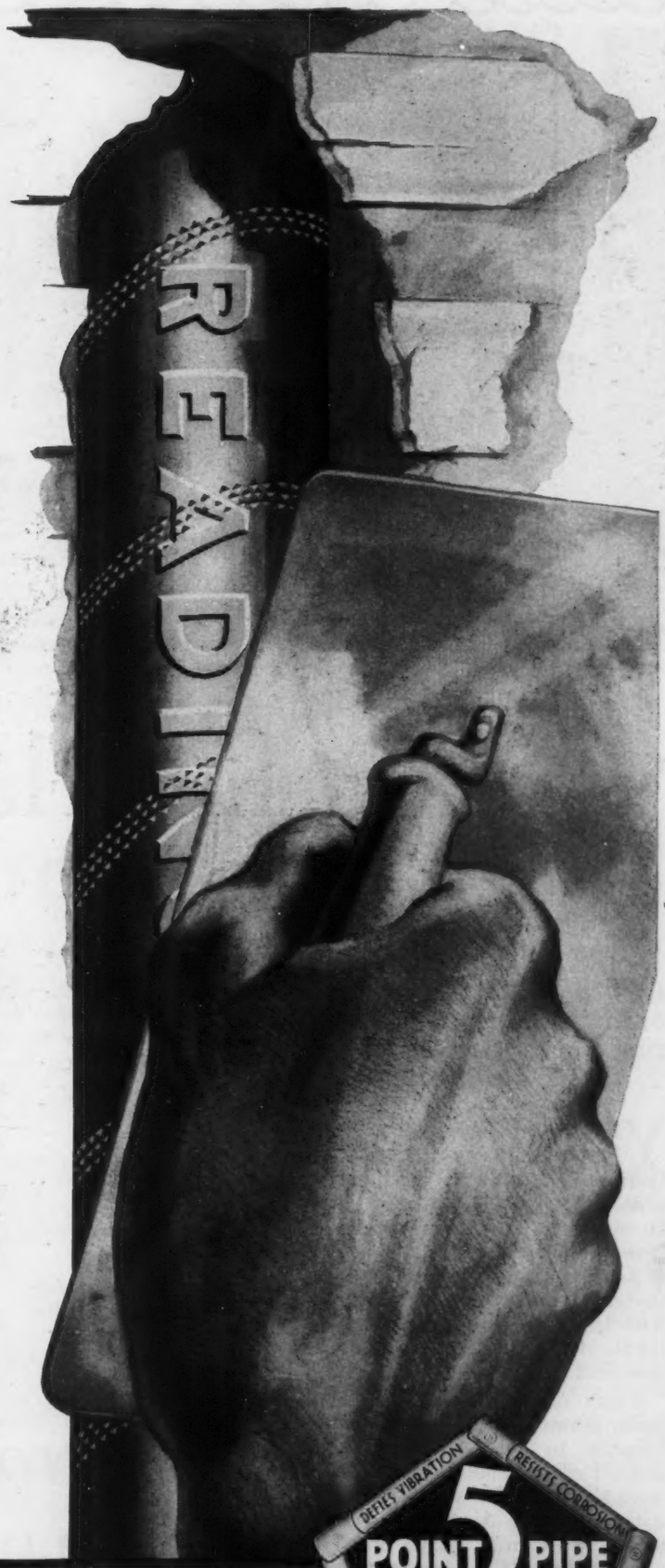


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*Modernistic Linotile effect in the North German Lloyd S. S. Co. office, Philadelphia, Pa.*

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Clear sailing, then, to custom-built floors of cork—Armstrong's Linotile. In fact, to secure just the desired effect, plain colors of Armstrong's Linotile were combined with strips of Armstrong's Linoleum. This was easy. For the adaptability of this hand-laid, hand-tailored floor is practically unlimited. Color? There are thirty marble designs and solid colors. Pattern? There are eighteen standard tile sizes, square and oblong. Reason enough why Armstrong's Linotile is increasingly popular in office and home, in public and semi-public buildings!

More reason still in the practical advantages. Why is Armstrong's Linotile welcomed in banks, libraries, hospitals, and schools? Principally because it guarantees floor-quietness. In hotels, restaurants, and tea rooms? Because it is easy to clean. In smart shops, showrooms, and theatres? Because it is warm, resilient, non-slippery, foot-easy. Everywhere—because it is permanent.

We'd like to send you "Custom-Built Floors of Cork." This book gives you all these interesting facts in detail. Shows you the various colorings. Illustrates some of the finer designs. Tells you, also, about Armstrong's Cork Tile, another custom-built floor. Sent free on request. Write to the Armstrong Cork Company, Custom Floors Department, Lancaster, Pennsylvania.

*Local floor craftsmen can install this hand-laid floor, and assure you a perfectly satisfactory decorative and structural job.*

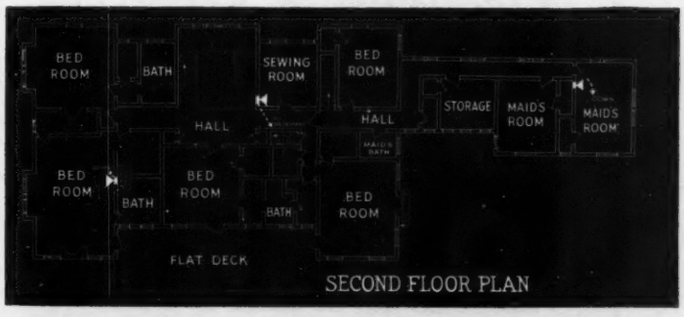
LINOTILE

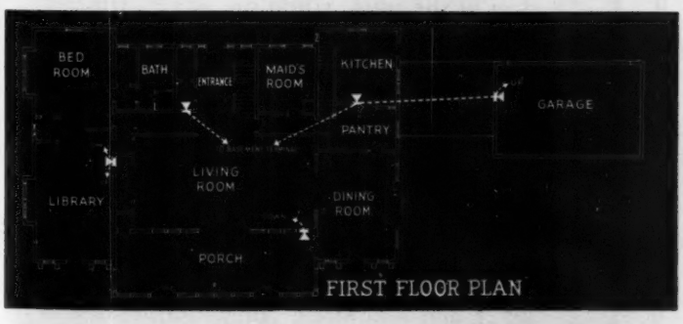
*Armstrong's* CUSTOM FLOORS

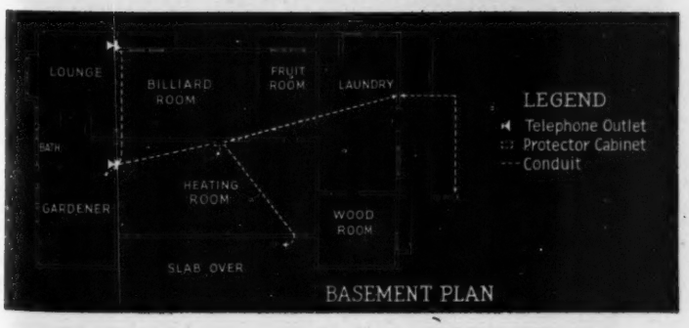
CORK TILE

# Communication *within* the Residence . . . over the Regular Bell Telephones

*Ten telephone outlets, including one in the garage and two in the basement, provide complete telephone convenience in the residence of Mr. A. W. Treadwell, 579 San Elijo Ave., San Diego, Calif.* HAYWARD PIERCE, Architect, *San Diego.*




IN DESIGNING a residence, it is often desirable to provide for communication within the house . . . bedroom to kitchen, for instance, or library to garage . . . as well as to the outside. Home owners find this especially convenient for conducting household business, receiving incoming calls or talking to people in other parts of the house. Bell System equipment makes it possible to have this intercommunication over certain of the house telephones, without interfering with outside calls.

This is but one of the many features of modern telephone convenience. The basic thought is to have the telephones sufficient in number, and so located, as to bring the greatest possible ease and comfort in the use of the service.

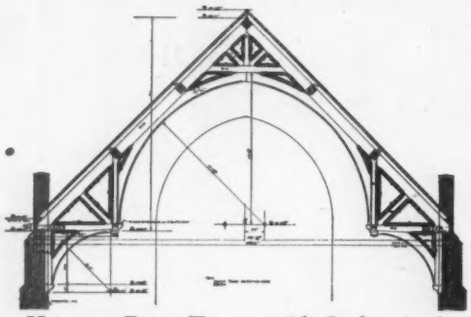
Conduit for the telephone wiring is specified throughout the house, making outlets available in every important room. Telephones can then be had just where the occupants want them. And they can enjoy the improved appearance which comes from concealed wiring.

The telephone company is constantly studying ways to improve its service. It will gladly co-operate with architects in helping to plan the best telephone arrangements for particular building projects. When intercommunicating service is involved, this consultation is particularly important. There is no charge. Just call the Business Office.

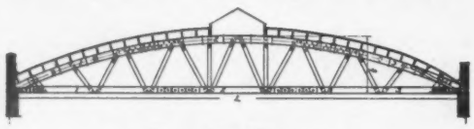
AMERICAN TELEPHONE & TELEGRAPH CO. BELL SYSTEM AND ASSOCIATED COMPANIES

# McKEOWN BROS. CO.

## BUILDS ROOF TRUSSES OF WOOD FOR ALL TYPES OF BUILDINGS



Hammer Beam Trusses with Gothic Arch

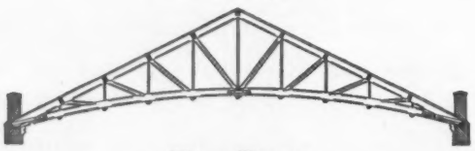


Bowstring Trusses

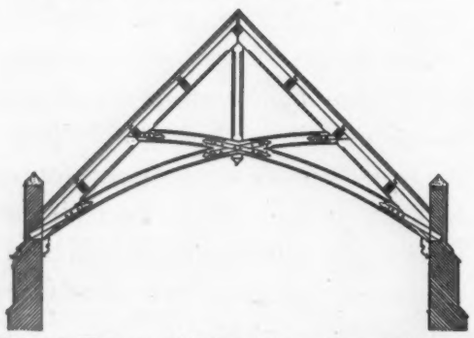
Crescent Trusses

Cantilever Trusses for Grandstands

"Lattis-Trusses"



Howe Trusses
with Straight or Curved Lower Chords



Scissors Trusses with Straight or Curved Braces

McKEOWN BROS. COMPANY

*Established 1894*

5237 So. Keeler Ave. CHICAGO

21 E. 40th St. NEW YORK



# COWING
## Pressure Relieving
# JOINT

*Patented September 1, 1925*

## *Insures Against Occurring Stresses In All Buildings*

IN stone, terra cotta or marble buildings, regardless of the rigidity of the structural steel or reinforced concrete frame, there are movements which occur that will create an overstressing of the facing material at various points. These movements may be caused by compression of the steel, vibration, wind action or unequalized expansion or contraction between the frame and the facing material due to temperature changes.

Where these movements occur—if there is not some elasticity in the face of the building—there will be some cracked facing blocks due to overstress.

The Cowing Joint, installed in place of one mortar joint at each story height, provides the needed elasticity. It gives exact and automatic compensation for all destructive stresses thrown on the facing material.

It is neat . . . will not squeeze out . . . eliminates frequent tuck-pointing . . . it is everlasting.

[ *Include Cowing Joint in the specifications. Estimates will be furnished promptly.* ]

Cowing Pressure Relieving Joint Co.

160 N. Wells St. - Chicago, Ill.

# VENEER-STEEL PARTITIONS

The Holcomb Street School, Hartford, Connecticut.
William D. Johnson, Hartford, Connecticut, Architect.
Wise & Upson, Hartford, Connecticut, Builders.

UNDER widely varied conditions of service—in practically every section of the country—the dependability of Veneer-Steel Partitions has been established. Every enemy of long wear—rough use, time, hot and cold water, excessive temperature changes—has been encountered and defeated. Flush-type, sound-deadening and galvanized, Veneer-Steel Partitions are an unfailing source of trouble-free satisfaction.

1st—Rustproofed completely—inside and out.

2nd—Flush Type—perfectly smooth.

3rd—Sound-Deadened—doors and all.

4th—Ball Bearing Gravity Hinge—lasts a lifetime.

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*Complete details found in Sweet's or send for bulletins*

THE HART & HUTCHINSON COMPANY
New Britain, Conn. *Agents in principal cities*

## DANGEROUS WORDS—*"or equal"*

The architect who permits the words "or equal" to be written into a specification calling for Kinnear Doors, lays himself open to possible complications. His very words imply his belief that Kinnear Doors have an equal. "There is no equal" is more than a slogan—it's a matter of fact, and every architect who has made a comprehensive comparison knows it. The safe way is to specify Kinnear Doors and insist that the specifications be followed. Our engineering department is at the service of any architect or specification writer—use it.

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ROLLING · DOORS
There *IS* No Equal

Save-
UPKEEP ⇨ DEPRECIATION ⇨ REDECORATION ⇨
LIFE ⇨ FIRE LOSS ⇨ WEAR ⇨ TIME ⇨ LABOR ⇨ DIRT ⇨ WEIGHT ⇨
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FIRE DOORS
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WALL TILE
PARTITIONS
STEEL JOISTS
TOILET PARTITIONS
STEEL FLOOR FORMS
STEEL CEILINGS
STEEL DELIVERY CHUTES
RADIATOR ENCLOSURES
STEEL MARQUISE

# 1211 *Buildings Burned Today*

A SMALL city burned today—nine hundred and thirty-one homes, five schools, five churches, fifteen hotel buildings, one hospital, four warehouses, six department stores, two theatres, eight public garages, three printing plants, three dry goods stores and ninety-six farm buildings. *That* is the average daily toll taken by *Fire* in the United States.

This same destroyer day after day snuffs out twenty-seven lives—nine being children under ten years of age.

Appalling!—And yet a few years ago, conditions were even more disastrous. Due to greater care and the growing use of steel building materials by architects and builders, there has been a decline in the fire loss. *Steel products never start a fire or feed the flames!*

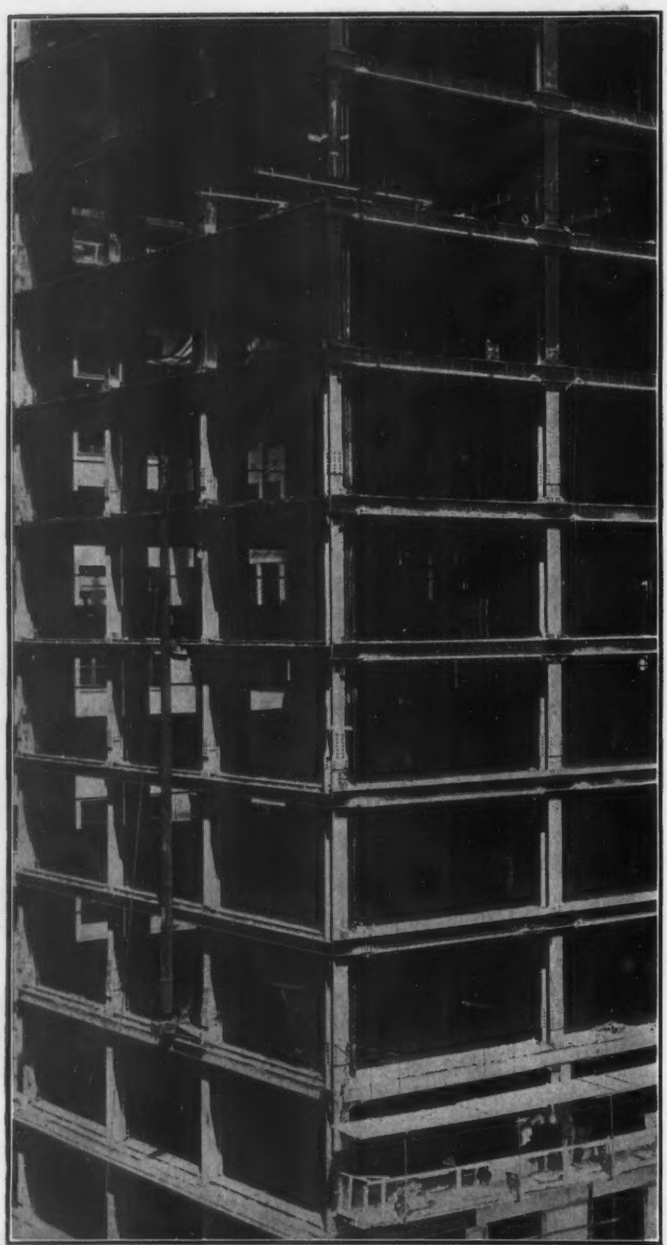
Steel partitions, doors and trim, steel stairways, steel lath and other steel building products are saving lives and property every day—many of them having definite ratings from the Underwriters' Laboratories because of their recognized fire resistive qualities.

Substantial savings in construction costs and additional fire safety are being obtained with such products as steel shower stalls and bathroom tiles, steel joists and floor forms, steel ceilings, cornices, canopies and stacks.

When weight saving is desirable, steel roof decks, galvanized roofing and siding and similar articles, make possible safe reduction in the weight and cost of supporting members.

Adaptable to factory, commercial building or home—advancing in artistic design and utility each year—The wider use of steel products will bring about great savings from fire loss, savings of life and money, savings in space, weight, wear, time, labor and dirt.

Complete information concerning these products may be obtained by writing the Trade Research Division, National Association of Flat Rolled Steel Manufacturers, Terminal Tower Building, Cleveland, Ohio.



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## BECAUSE NATCO MEANS EVERYTHING IN TILE

**FOR WALLS—interior and exterior, load bearing, curtain and partition; finished face, brick veneered, or stuccoed—**

**FOR FLOORS—flat arch, combination floor, or Natcoflor—**

**FOR FIREPROOFING—on beams, girders, and columns—**

**—you can safely specify Natco, secure in the knowledge that Natco Structural Clay Tile completely fills each need. No matter what the application, Natco brings to it the sterling qualities of fire-safety, permanence, freedom from maintenance, low depreciation, protection, and all-around economy, that have dictated the use of Natco in almost every building of note erected in recent years.**

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*General Offices:* Fulton Building, Pittsburgh, Pa.

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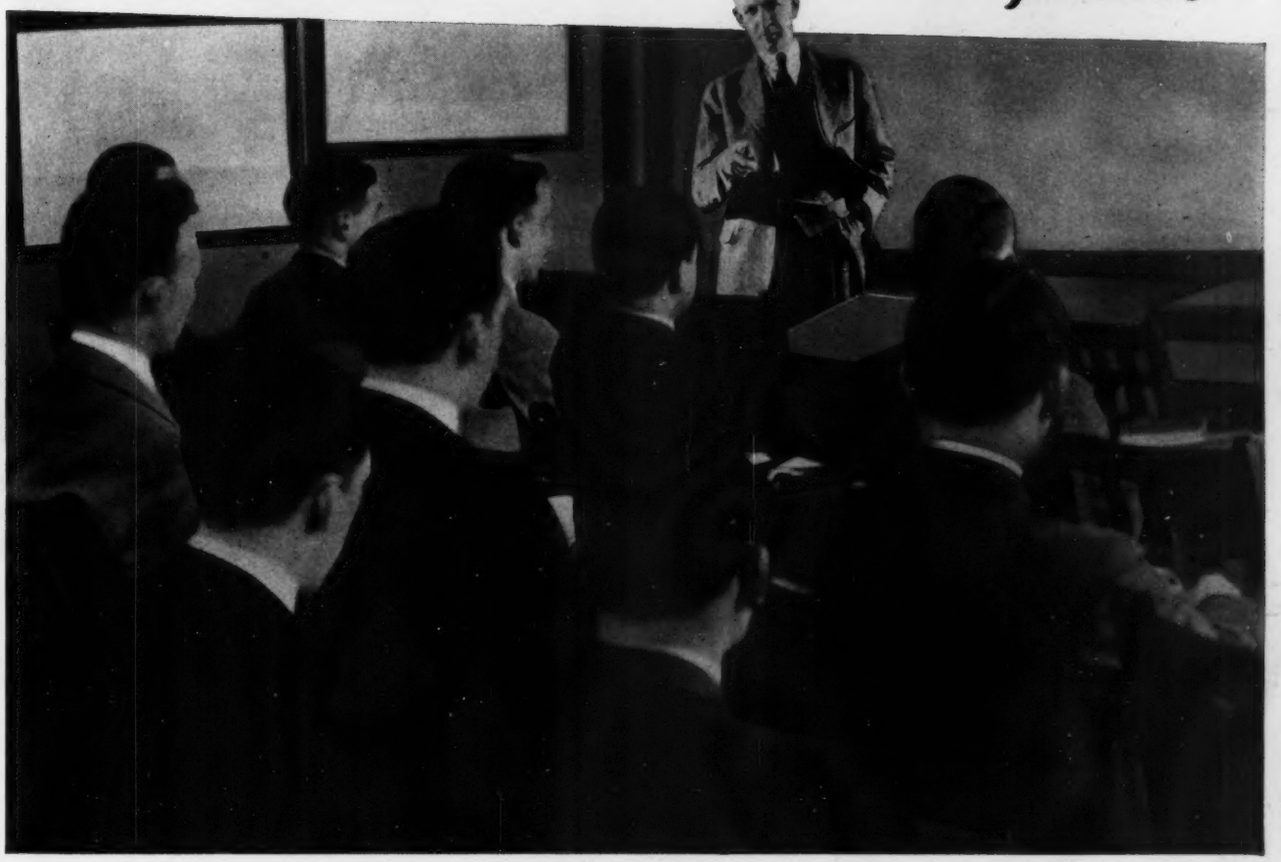
# NATCO

THE COMPLETE LINE OF STRUCTURAL CLAY TILE

# TURN TO "SWEET'S"

# QUIET . . . . . *please*



NO LONGER, in quieting class-rooms, corridors, and gymnasiums, is it necessary to spare the ear and spoil the eye.

Acoustex meets every requirement of sound correction, *and in addition* offers a ceiling finish beautiful in itself. The restful texture of Acoustex, in tile or sheet form, opens to the architect new vistas of decoration in acoustical design.

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Acoustex erectors are located in principal cities. Should one not be available in your vicinity, write direct.

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The most beautiful acoustic material on the market . . . Tiles from 6″ x 12″ to 12″ x 24″ and large sheets 2 feet wide and up to 10 feet in length . . . all one inch thick . . . Tinted to your specifications . . . Unusually high coefficient of sound absorption . . . Fire-resisting . . . Moisture-proof . . . Easily vacuum cleaned and redecorated . . . Tested through years of successful installations.

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Send Specifications and Details on the Use and Application of Acoustex for our acoustic file.

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Address_____

# ACOUSTEX

The *Decorative* Sound Absorbent

NUMBER 11

*of a series of historic structures, illustrating the varied ways in which American marble has contributed to the development of our national architecture. The pictures on this page, both of the Old Post Office and President Van Buren, are reminiscent of the styles of other days.*

# The President Who Counted the Second Cost

IN 1839 when the Old Post Office was built in Washington there was much discussion in Congress as to what building material should predominate in the new Capital. Even then the followers of L'Enfant were arguing for the city beautiful. In the case of the Post Office the choice of material was left to President Van Buren. He decreed that marble should be used, not because of its beauty and dignity, but because with marble there would be no painting, no cost of upkeep. He looked at it purely from the standpoint of economy.

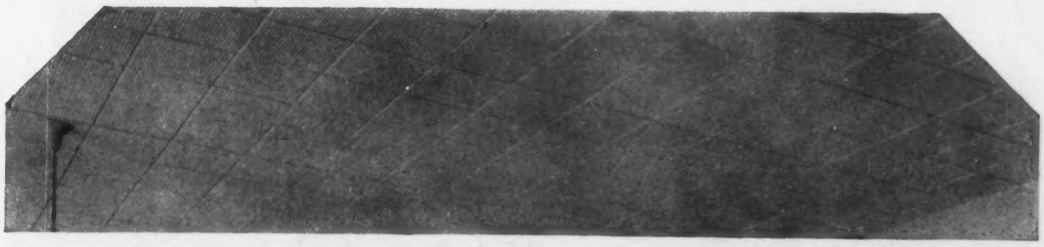
Robert Mills who designed this old Post Office was the architect also of the Treasury Building, the Patent Office and the stately Washington Monument. He was the first native-born American architect to be regularly trained for the profession.

VERMONT MARBLE COMPANY—PROCTOR, VERMONT

*Branches in the Larger Cities*

See Sweet's Catalog for Specifications and Other Data

VERMONT MARBLE



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*Goodyear Rubber Flooring in Banking Room, Title Insurance & Trust Co., Los Angeles, California: Parkinson & Parkinson—Architects*

The tomb-floor of the blue-nosed banking house has departed with the counter grille and barbican. Now, Goodyear Rubber Flooring eases the strain of working hours for customer and bank employe, and foothold surfaces break into bewilderingly varied, colorful, and fine-lined patterns.

Goodyear Rubber Flooring in thirty different colors is laid by modern architecture in unlimited patterns to lend comfort to the business eye and foot. It is resilient, clean, silent, and permanent on business floors. And especially, as of banks, where foot traffic is continuous, the redoubtable endurance of rubber flooring is valuable.

Consider also the sanitation of business floors. Goodyear Rubber Flooring responds instantly to the easily whisked mop. Its pliant surface is impervious to dirt—*it possesses laboratory cleanliness!*

You should know this architecturally versatile flooring. It is as adaptable to the device of your pencil as it is to the "functions" of any room in any building. Without the least pretense of "modernity," in comfort, in cleanliness, in style, and in cost, it is the most modern, permanent flooring.

Write today for Reference Book, A. I. A., File No. 23c—Goodyear, Akron, Ohio, or Los Angeles, California.

*The Greatest Name in Rubber*

GOODYEAR

RUBBER FLOORING

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*American Cities*

BOSTON—Faneuil Hall
"the cradle of American liberty"
*Drawing by* M. PAUL ROCHE (Series No. 8.)

*In Boston*—A recent Duraflex-A installation
INSURANCE EXCHANGE BUILDING
Coolidge and Shattuck, *Architects*
Geo. A. Fuller Co., *Builders*
***220,000 square feet of Duraflex-A***

IN BOSTON, as in other American cities, Architects and Builders alike are turning to Duraflex-A as the Flooring best suited to modern ideas of construction and economy. Duraflex-A Flooring provides a permanent, seamless wearing surface that can be maintained against wear and damage. It can be kept easily and economically in continuous perfect condition. Send for complete data and specifications.

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BALTIMORE, MARYLAND

OFFICES IN PRINCIPAL CITIES

# DURAFLEX-A FLOORING *and* DURAFLEX TILE

# *The Lumber Industry* pays a debt to Architects

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***Guaranteed "Tree-Mark" lumber—new safeguard for your specifications—expresses lumbermen's appreciation of your favor for their product***

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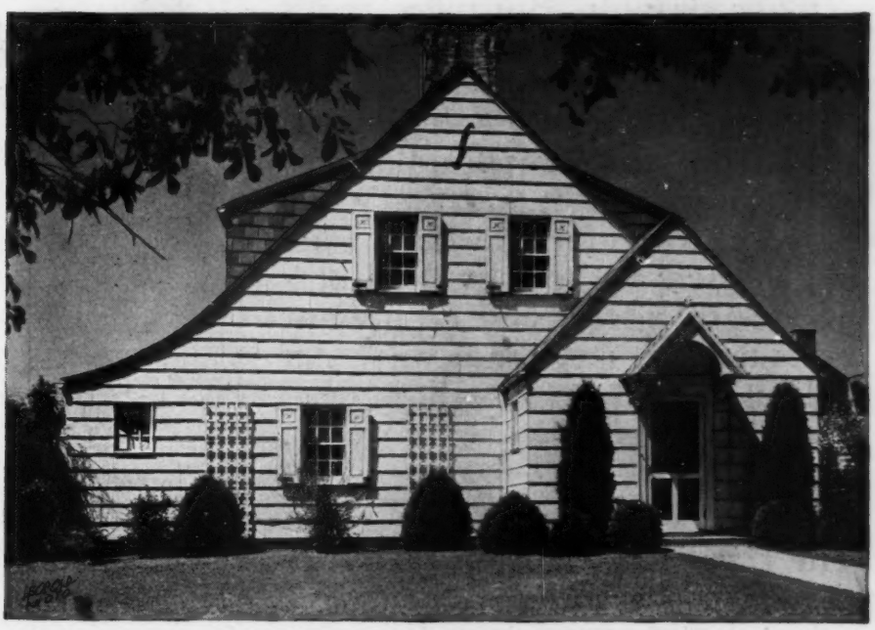

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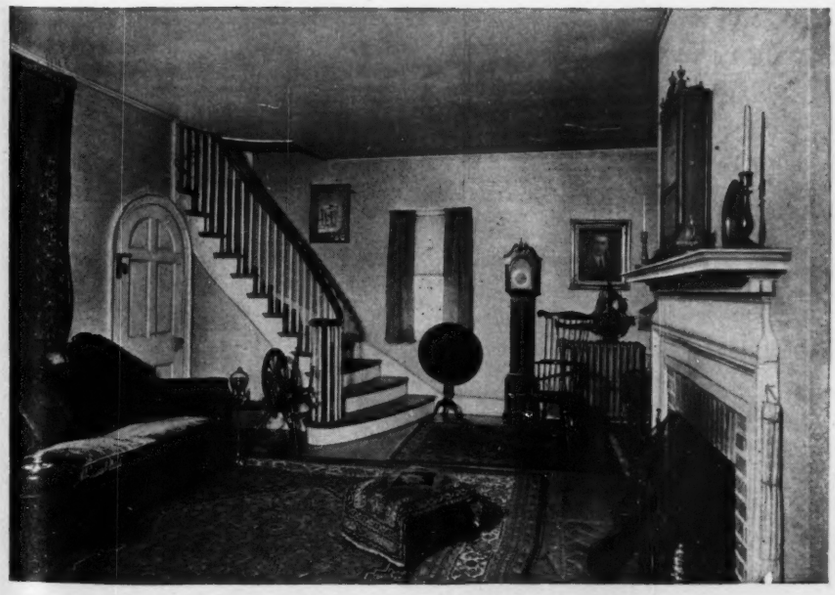
You have mentioned the friendly charm, the character, the lasting beauty, of homes of wood. You have pointed out the fact that these homes cost less to build, less to maintain, less to heat. The Lumber Industry owes architects a debt of gratitude.

Now the National Lumber Manufacturers Association pays its debt to you by providing GUARANTEED trade- and grade-marked lumber to safeguard your lumber specifications.

The National Lumber Manufacturers Association guarantees to the lumber dealer that the lumber bearing its symbol, the "Tree-Mark," is of the quality indicated thereon by the official marks of the expert grader . . . that it is carefully manufactured "American Standard Lumber from America's Best Mills."

Two valuable new booklets in the lumber library are yours for the asking. They are "Modern Home Interiors" (full of ideas for artistic interior application of lumber), and "Taking the Mystery Out of Lumber Buying" (tells all about lumber grading and selection). The coupon brings them—FREE.



*On this page are two views of an architect's own home—lumber built. The beautiful residence of Henry Powell Hopkins, at Roland Park, Md.*

The "Tree-Mark" stamped on a piece of lumber is a guarantee from the organized lumber industry of America that the quality indicated thereon by the official marks of the expert grader is correct—that the lumber is carefully manufactured "American Standard Lumber from America's Best Mills."

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*Gentlemen:* Please send me FREE "Modern Home Interiors" and "Taking the Mystery Out of Lumber Buying."

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# "If a horse kicks me *once*

—that's his fault. But twice, that's my fault"—the fair name of architect or owner who buys *one* oil burner is no recommendation for the burner. It's the *repeat* business that tells the tale, and that's just how we grow; more Hardinge Fuel Oil Burners are sold by the word-of-mouth advertising of present users than by any other way. An old-fashioned way to sell, maybe, but a pretty good index of worth.

●

The Hardinge got its start in the industrial field where nothing counts but performance. Examine one now and you'll see plain traces of its industrial ancestry in weighty castings, husky bronze bearings, amply dimensioned parts, an oversize motor, a dozen mechanical niceties. The thought of achieving a pretty-looking ensemble never entered our engineers' heads; their minds are glued on the Hardinge Service Guarantee.

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When it comes to the heating of your next bungalow, residence, apartment or commercial building, you will find our working folders a real help. For your file copies, drop a card to Hardinge Bros., Inc., 4149 Ravenswood Ave., Chicago

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*Fuel Oil Burners*

Gives

# Dependability

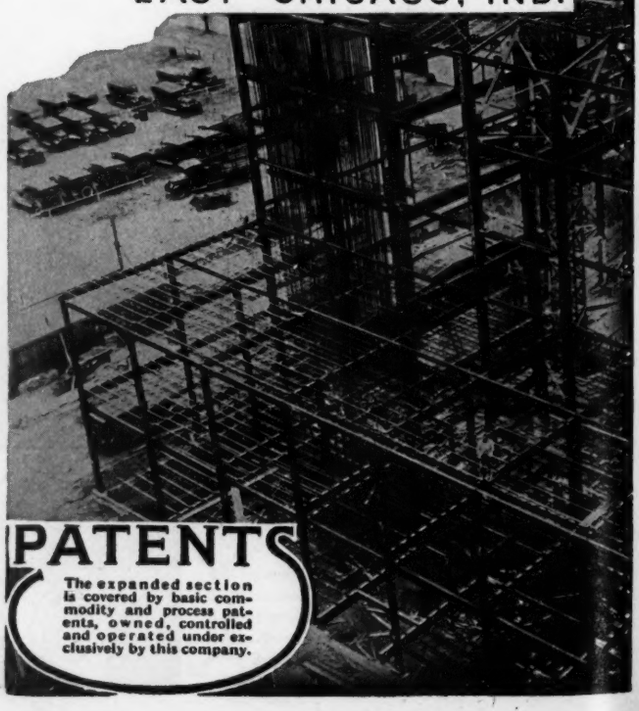
NO WELDS IN STRESS—one piece of steel – expanded—without rivets, bolts or welds in shear or tension—these are the features responsible for the rapid gain in Bates-Truss Joist popularity.

A simple I-beam section is expanded into a lattice truss web. The expansion increases the depth of the beam—the truss materially increases its strength. The points of contact of the lacing and flange members are simply unsheared portions of the original plain web.

Write for catalog, loading tables and complete information on this modern truss joist.

BEST Bates Expanded Steel Truss Co.

EAST CHICAGO, IND.



PATENTS

The expanded section is covered by basic commodity and process patents, owned, controlled and operated under exclusively by this company.

# SUB ROSA

***This easily adjustable mechanism is completely hidden under a rose on the door jamb***

**Unsightly transom lifters no longer spoil door contours**

• • •

**No more screeching and squealing**

• • •

**No more tugging and pushing**

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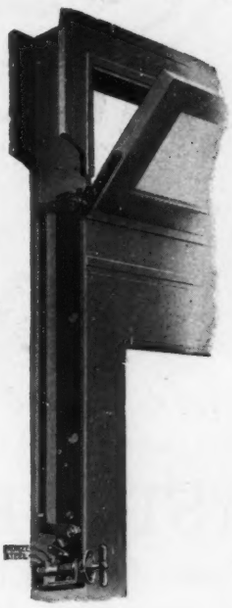

## *Rixson Concealed Transom Operator*

All that is seen of this modern operator, in contrast to the rods and brackets of other transom devices, is the neat handle and rose. Below the surface in the jamb this Rixson Specialty develops such power that transoms move silently at a mere twist of thumb and forefinger. This is one of those features that add so much to ultimate satisfaction in a hotel, hospital, office building or fine residence job.

SWEETS

**Full details on page B2428**

**THE OSCAR C. RIXSON COMPANY**
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RIXSON

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**Overhead Door Checks**
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**Olive Knuckle Hinges**
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**Concealed Transom Operators**
**Adjustable Ball Hinges**
**Butts, Pivots and Bolts**
**Door Stays and Holders**

Rodin Museum*, Philadelphia, Pa.
Paul Philippe Cret, *Architect*

# TRIBUTE

THE reverent spirit that is embodied in the Rodin Museum is admirable. Intended to preserve beautiful art, it must of course be beautiful. It very appropriately duplicates the facade of the Rodin Memorial Musee at Meudon, a suburb of Paris, which was formerly the villa and studio of the famous sculptor and which he himself built. Several imperfections resulting from his lack of architectural training were retained in the Philadelphia replica which was built of stone quarried and cut in France. The gates and other details are also faithful reproductions.

Itself a thing of beauty, the Rodin Museum was worthy of preservation from the elements. Window and door frames, cross joints, capstones, and copings were calked with non-staining Pecora Calking Compound. This gift of the late Jules E. Mastbaum to the City of Philadelphia, gracing the Parkway, is a permanent tribute to genius.

**Calked with Pecora Calking Compound by the Ev-Air-Tight Calking Company, Philadelphia, using their pneumatic process.*

SEALED WITH PECORA CALKING COMPOUND

**PECORA PAINT COMPANY,**
**Sedgley Avenue and Venango Street, Philadelphia**

Please tell me why a building isn't completed until it is calked. And give me full information on Pecora Calking Compound.

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KEYSTONE COPPER STEEL
AMERICAN
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*The Original* COPPER STEEL

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**Blue Annealed Sheets**
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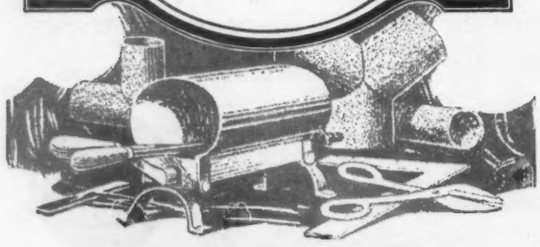
**Roofing Terne Plates**

*Send for "Anti-Corrosive Metal" booklet*



Since first developed and introduced in 1911, the tonnage of our various sheets of

KEYSTONE QUALITY

has grown from 5,000 to upwards of 300,000 tons annually, because of the ability of KEYSTONE to resist rust and give longer service.

KEYSTONE Copper Steel Sheets excel for car roofing and new car construction. The United States Reclamation, Forestry, and Public Roads Departments use KEYSTONE for culverts and flumes. Specify it for roofing, siding, spouting, gutters, metal lath, and exposed sheet metal work.

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**American Sheet and Tin Plate Company**
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# Koh-i-noor for Color!

A SERIES OF SUGGESTIONS FOR STUDENTS AND DRAFTSMEN BY A. L. Guptill

## For Designing Polychrome Ornament

DESIGNERS and draftsmen are turning to "Mona Lisa" Colored Oil Chalk, in pencil and crayon form, particularly in the designing of such ornamental detail as polychrome terra-cotta, leaded glass, mosaic and the like.

Its convenience, its brilliancy of hue, its range of 27 harmonious colors, its blending qualities, its strength coupled with a sensitive response to variation of pressure, its uniformity of texture and its reasonable cost all contribute to its popularity. Its availability in both pencil and stick form is another factor of importance.

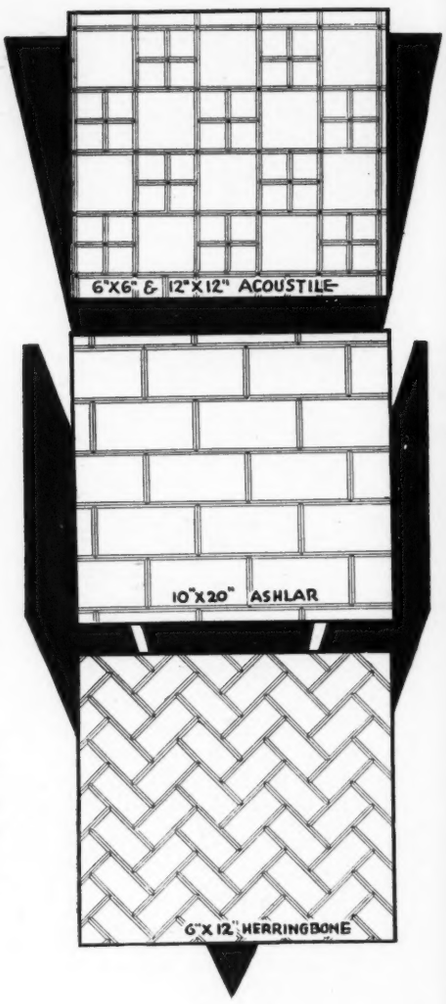
The above drawing illustrates very clearly this latter point, showing in a practical way the combination of pencil and crayon. This detail was laid out at this exact size on smooth paper with a 2H "Koh-i-noor" Drawing Pencil. The "Mona Lisa" Colored Oil Chalk in pencil form was then used for rendering the plaque itself, the brickwork being later rendered with the same material in the Stick Crayon. The individual strokes may be plainly seen.

"Mona Lisa" Oil Chalk Crayons
No. 377-13, 18 and 24 colors.

KOH-I-NOOR PENCIL COMPANY, Inc.
34 EAST 23rd STREET, NEW YORK

Color Chart of the "Mona Lisa" Crayons, also our descriptive booklet "The Right Pencil in the Right Place" will be sent free upon request.

# *The* RADIO *and the* TALKIES Bring New Acoustical Problems *Solve them with* INSULITE ACOUSTILE




DON'T blame the architect if, when trying to enjoy a "Talkie," your eardrums are abused. The movie theaters of yesterday were never designed from the acoustical standpoint . . . no one ever dreamed that some day speech amplifiers would be installed.

In the movie theater of today acoustical correction is essential. Insulite Acoustile has solved the problem, and proved more efficient than other forms of material now available.

Insulite Acoustile has a very high and uniform sound absorbing coefficient. Its rigidity—light weight—attractive cream color—rich looking burlap texture—convenient sizes and low cost of application and upkeep make Insulite Acoustile the ideal acoustical correction material either for new or old theaters and auditoriums.

In the radio world too, Insulite Acoustile is the recognized acoustical material. All over the country it is being used in radio broadcasting studios, radio cabinets and for dynamic floor screen radio speakers. In fact, Insulite Acoustile is a superior material in all places requiring acoustical treatment.

Our Engineering Department will be glad to co-operate with architects and engineers in solving acoustical problems. May we send you our booklet—"Facts You Should Know About Acoustics." Ask for A. I. A. File No. 39.

## ATTRACTIVE DESIGNS ARE POSSIBLE

INSULITE Acoustile can be secured in any size up to 24x24, beveled on all four edges. These many and various sizes and shapes may be arranged in an endless variety of attractive patterns. Acoustile can be artistically decorated by using either water or alcohol stains.

*Insulate with*

FULL ½ INCH THICK
RESISTS
COLD-HEAT-NOISE

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*the Wood-Fiber Insulating Board*

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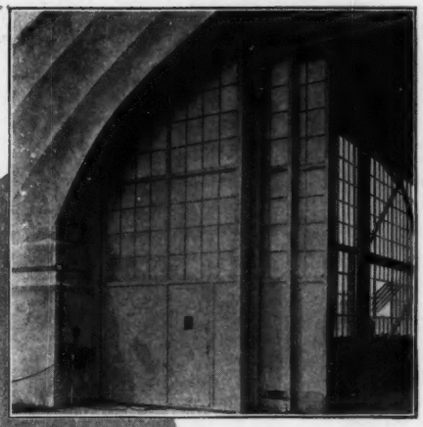

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## *because of longer experience*

BAYLEY-SPRINGFIELD Steel Doors are made by the pioneer designers, builders and erectors of tubular steel doors. Their phenomenal strength, efficient performance and fine appearance, as used today in leading industrial plants, are the result of more than twenty years' experience with door problems. Their outstanding features are —

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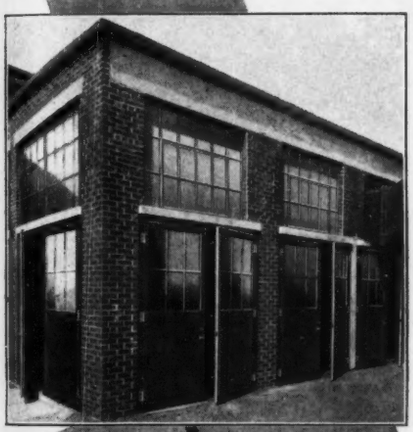
— Bayley Method of encasing locks in framing tubes to withstand banging without constant adjustment or removal;

— Bayley Method of attaching lower steel panels to act as additional reinforcement and permit easy replacement if damaged;

— Bayley Method of setting upper glass panels in rigid steel frames designed to increase door stability.

**Use this Bayley experience. Call in Bayley engineers when preparing plans and specifications. Write for Steel Door Folder. The William Bayley Company, 134 North St., Springfield, Ohio.**



Airport Doors

Swinging Shop Doors

Double Folding Doors

Sliding Shop Doors

## Bayley-Springfield Steel Windows and Doors

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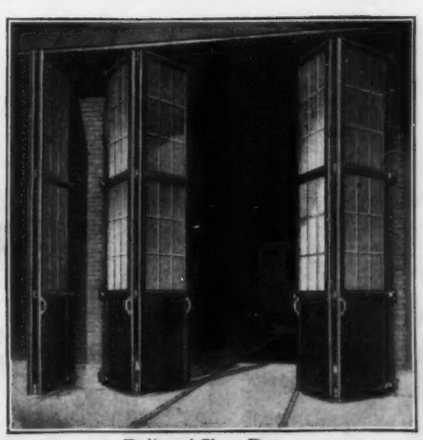
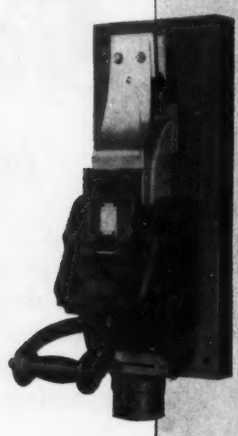


Railroad Shop Doors



Single-pole, 4000-ampere CL breaker with inverse-time-limit attachment.

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## *for the electrical circuits in the World's Tallest Building*

IN the past few years, CL carbon circuit-breakers have been chosen for many imposing buildings. The Atlantic City Auditorium, the Chicago Civic Opera Building and the Chrysler Building, to be the tallest in the world, head the impressive list.

This choice for such outstanding buildings is worthy of your best consideration when you are selecting carbon breakers for building requirements.

The extensive testing laboratory, maintained by Westinghouse, enables its engineers to determine the proper design of circuit-breaker to cope with varying conditions of new structures such as this, the world's tallest building.

Your file, 31D 44, should contain circular 1705. If not, ask our nearest office for a copy.

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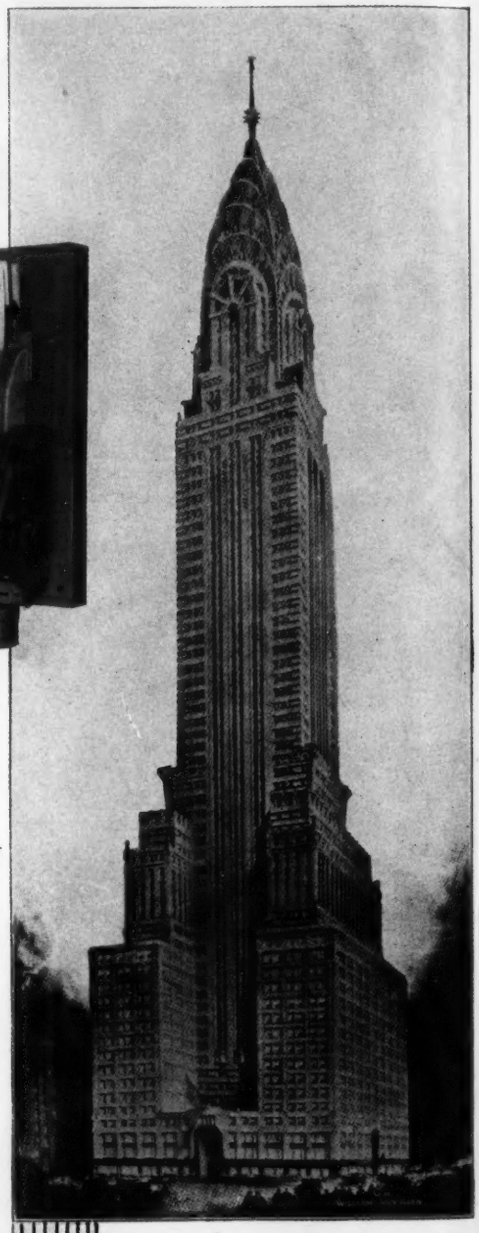

Chrysler Building as it will appear on Lexington Avenue, 42nd to 43rd Sts., New York City.

William Van Alen, Architect; Louis T. M. Ralston, Electrical Engineer; Hatzel and Buehler, Inc., Electrical Contractors.

# Westinghouse

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*Bloxonend lays rapidly and can be installed in old plants with but slight interference to daily operations*

IN 1920 the AC Spark Plug Co., Flint, Mich., floored a new machine shop with 26,000 square feet of BLOXONEND. In 1926 an additional quantity of BLOXONEND was used in a new addition because the original installation had lived-up to every claim we made for it.

The performance of BLOX-ONEND through the years has resulted in it being looked on as a *Production Asset* by AC Plant Officials. The floor has remained smooth under trucking, constant footwear and severe machine shop usage. Trucking has been made easy, floor maintenance eliminated and the comfortable resiliency afforded is appreciated by employees. Oils and grinding solutions coming into contact with the floor have had no effect on the durability of BLOXONEND.

Hundreds of nationally known industrials of the calibre of the AC Spark Plug Company are finding it profitable to use *smooth, durable* BLOXONEND on floor surfaces subjected to hard wear. Write for sample and complete information.

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# BLOX-ON-END FLOORING

Bloxonend is made of Southern Pine with the tough end grain up. It comes in 8 ft. lengths with the blocks dovetailed endwise onto baseboards.

*Lays Smooth*
*Stays Smooth*

TRADE YALE MARK

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SKYSCRAPER MOTIF

Inspired by those towering monuments to this startling age whose tips reach ever higher toward the skies . . . their clean, sheer sweep of line and dynamic simplicity keyed to the pulse of the day . . . these designs moderne are dedicated to those who would have their mode of life personified in their business structures and homes as in their clothes and manners and motors. And molded into the beautiful artistry of these striking pieces of hardware is an indomitable strength . . . a steadfast security . . . commensurate with the ever-ripening tradition of quality with which high-grade locks and hardware by YALE have been endowed for more than half a century.

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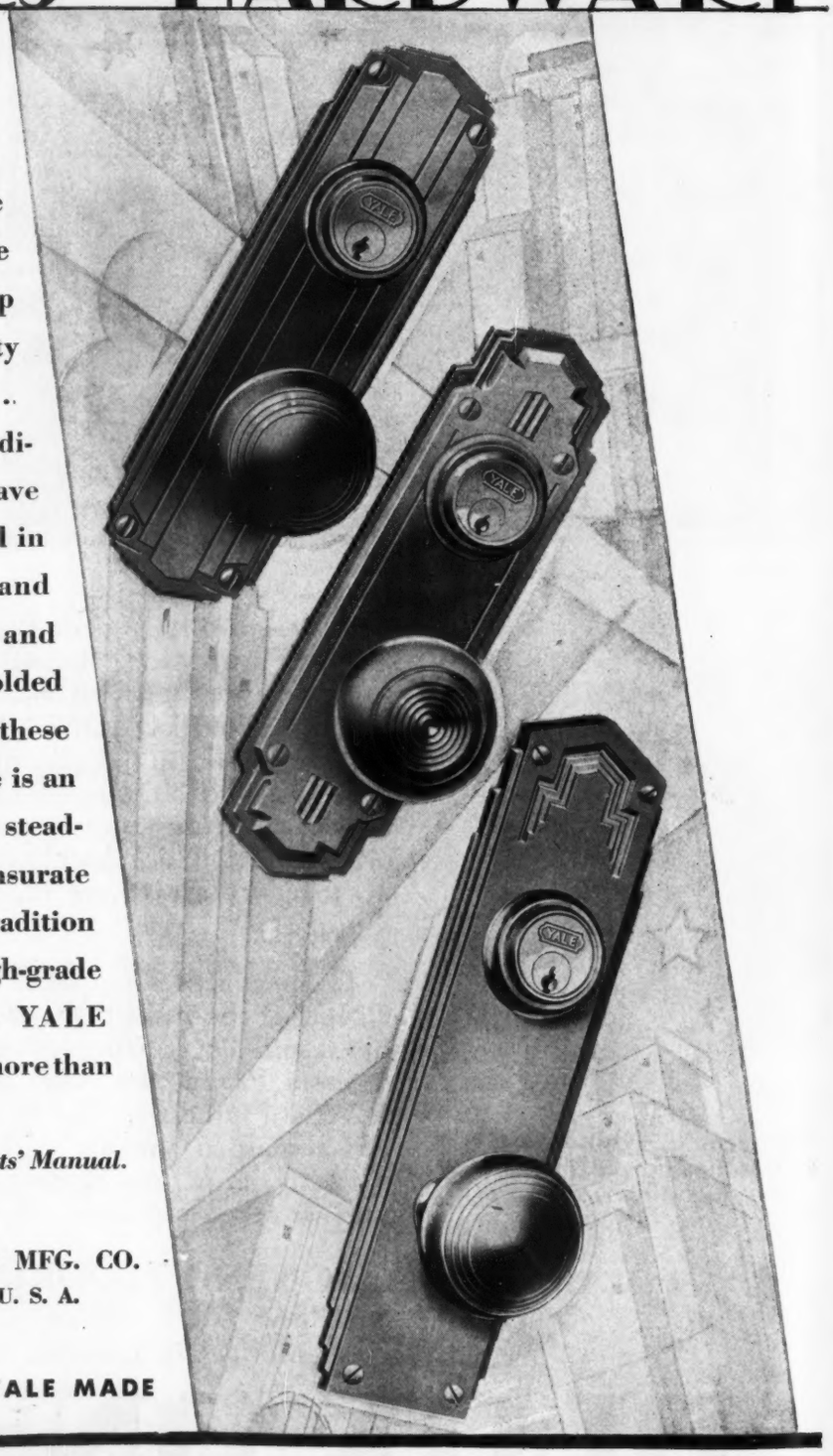


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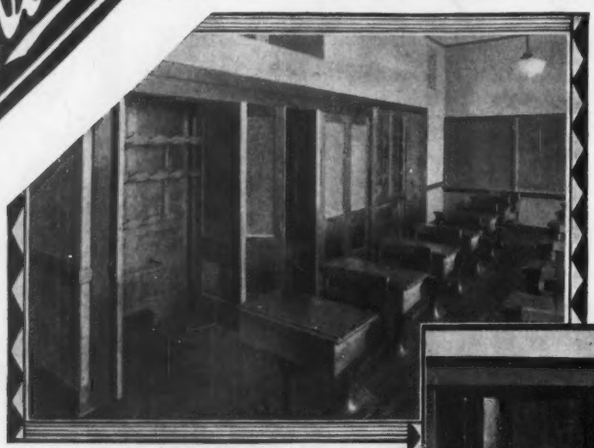
Wilson

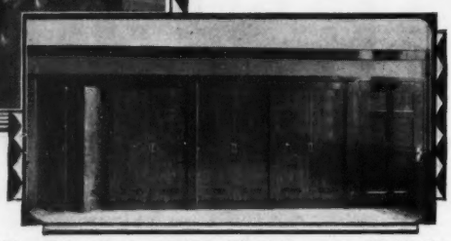
# HYGIENIC SCHOOL WARDROBES



Showing installation in class room of Belmont, Mass. High School. Note how doors do not block aisle when wardrobe is open.

Wilson Hygienic Wardrobes are constantly under the teacher's eye, promoting discipline. Ventilated, they are hygienic. Doors on certain types may be fitted with continuous or nearly continuous blackboards. They are products of over 50 years of Wilson experience and development, installed under Wilson supervision and guaranteed for one year.

For full details as to advantages, descriptions, etc., including the Wilson Rolling Front type for small schools with limited construction appropriations, send for Catalog No. 4.



These Wilson Disappearing Door Wardrobes were installed in College Hill Public School, Cincinnati, Elzner & Anderson, Architects.

## *What Good are Cloak Rooms, Anyway?*

THE old-fashioned cloakroom has served its purpose, for the most part in demonstrating the useless construction expense attached to a separate walled-in enclosure, its unsanitary characteristics and as an obstacle in the path of educational efficiency.

Architects throughout the country specify Wilson Wardrobes. They do not encroach on valuable class room space. Disappearing doors project but 2½ inches into aisles. They conserve construction funds, saving, for example, $120 to $187 in a room 29′x22′x12′ ceiling.

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Also Manufacturers of Sectionfold and Rolling Partitions
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Steam heating quickly devitalizes indoor air. Revitalization and an even, moderate temperature from floor to ceiling are secured most practically by the continuous diffusion of vital (*unheated*) fresh air—the Gerdes Method.

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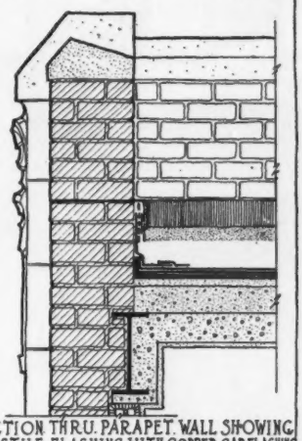
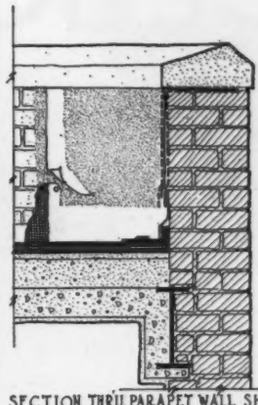


SECTION THRU. PARAPET WALL SHOWING ASBESTILE FLASHING WITH COPPER CAP FLASHING

TYPICAL DETAILS



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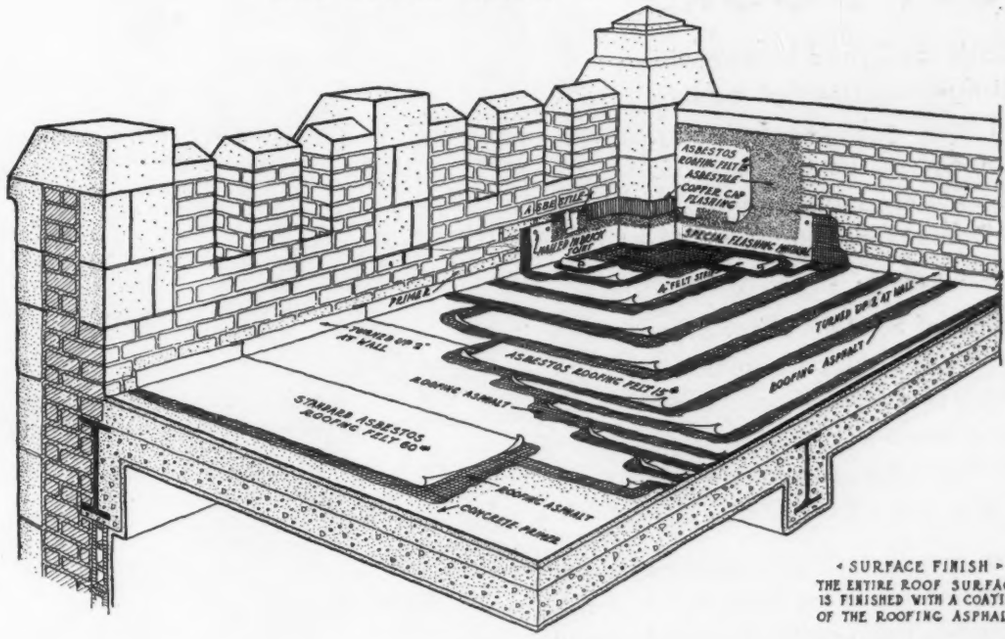


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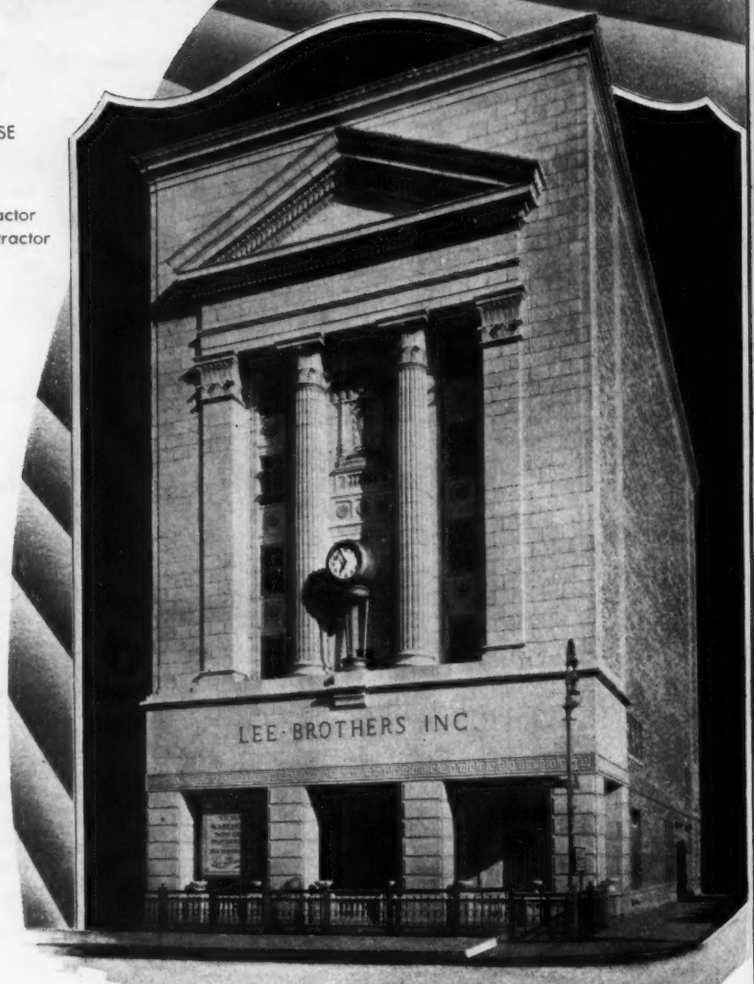


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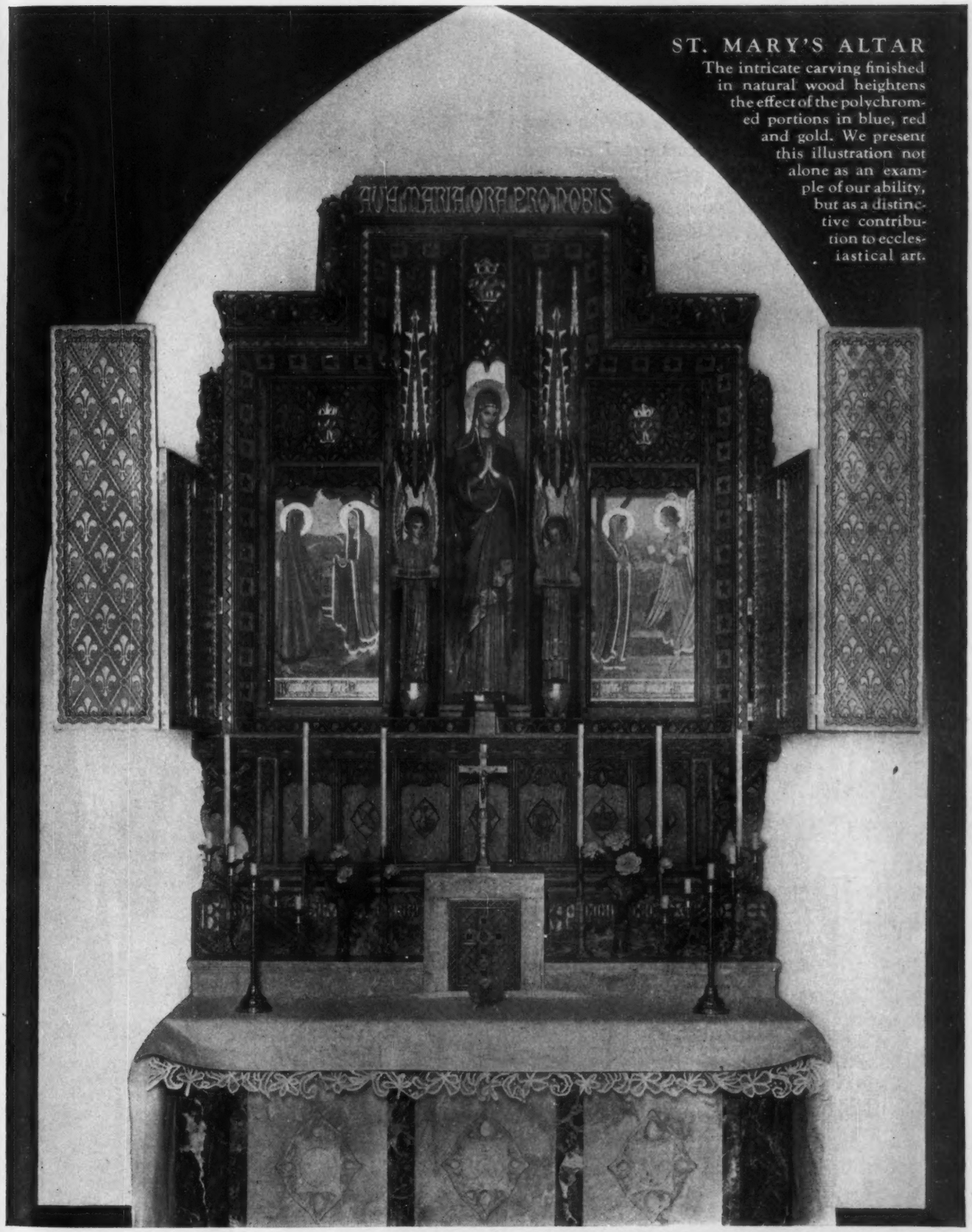
*Make good freight elevators more efficient*

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The intricate carving finished in natural wood heightens the effect of the polychromed portions in blue, red and gold. We present this illustration not alone as an example of our ability, but as a distinctive contribution to ecclesiastical art.

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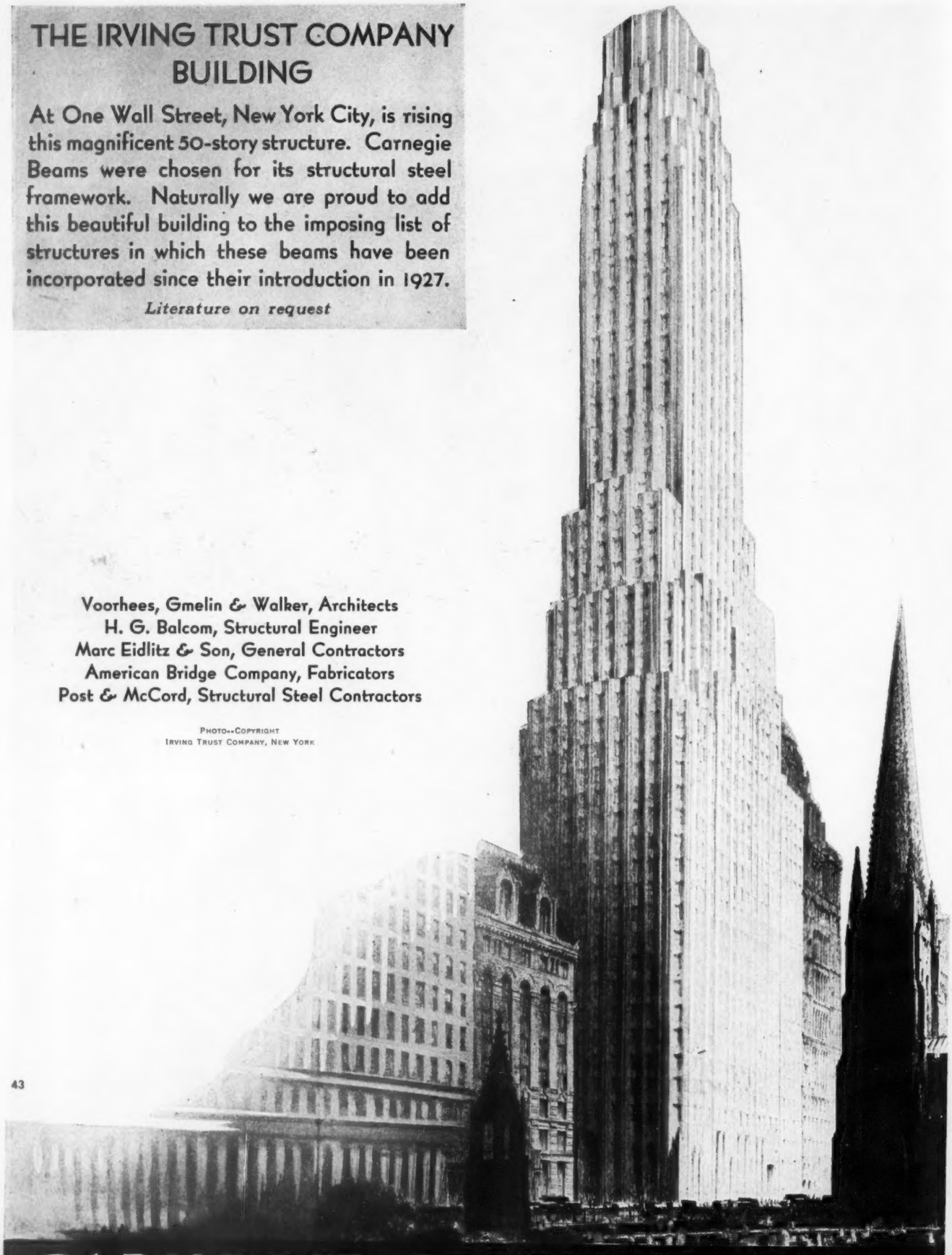
IRVING TRUST COMPANY, NEW YORK



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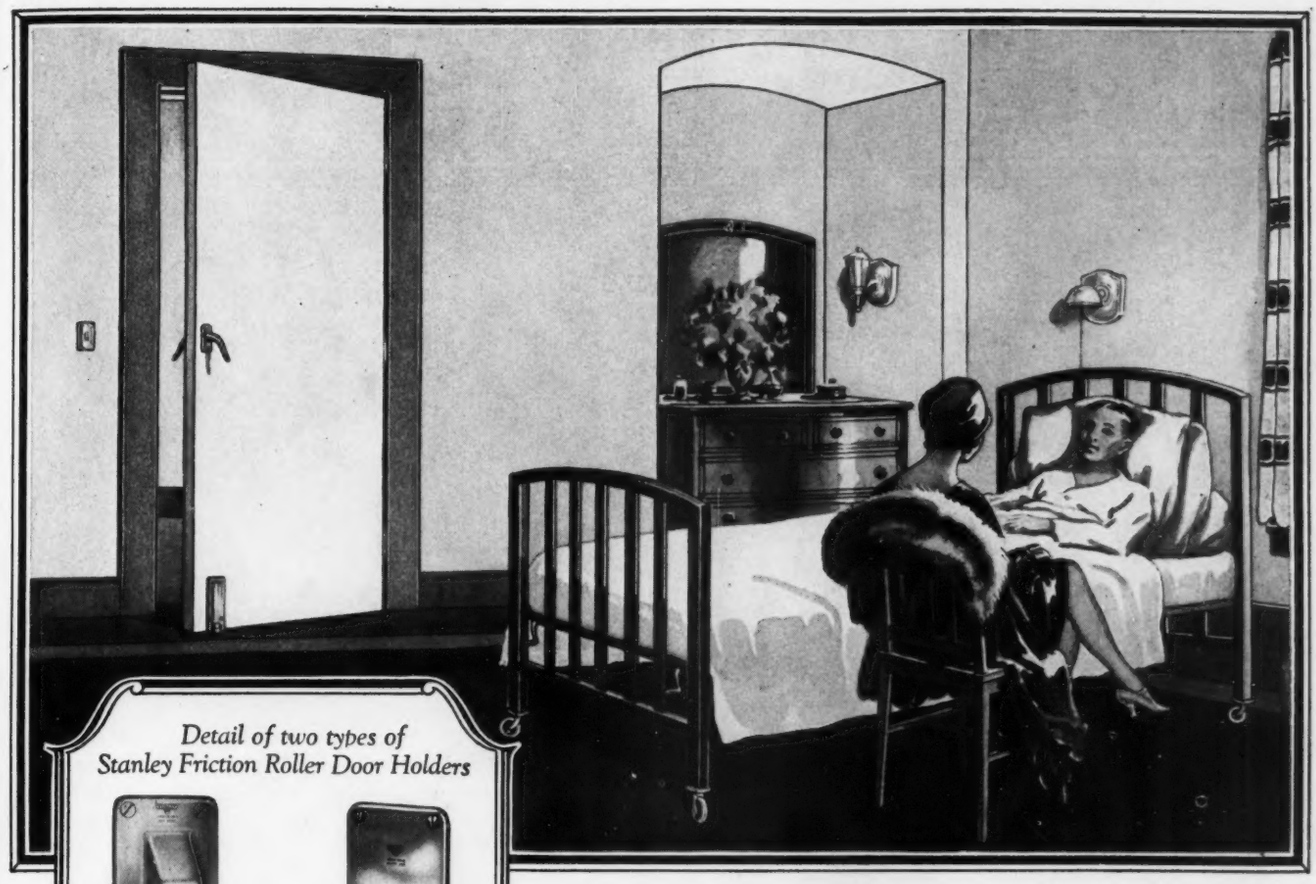
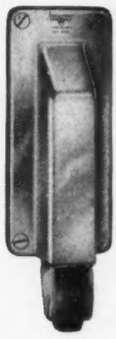


*Detail of two types of Stanley Friction Roller Door Holders*



Surface Type
No. 453

Recommended for doors now in use lacking means of door control.

Mortise Type
No. 454

Recommended for new construction.

*Features*

Silent Operation
Easily applied
Easily operated
Long wearing
Requires no adjustment
Economical

*Operation*

As the door is moved back and forth the rubber friction roller rolls along the floor. The friction of the roller itself holds the door in any position and prevents it from slamming. Roller is mounted on a slide working against a spring, this maintains a non-varying pressure on floor and takes care of any irregularities in the floor surface. The door holder places no strain on the hinges.

Both types are enclosed in polished bronze or brass cases and can be supplied in any finish to match the hardware trim.

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## The new Stanley Friction Roller Door Holder for Hospital Doors

holds the door in any position, prevents the door from slamming, gives the patient the comfort of a partly open door day or night. Allows the door to stand ajar for ventilation and at the same time insures privacy.

A simple and economical mechanism which adds greatly to the comfort of the patient through silent, positive door control.

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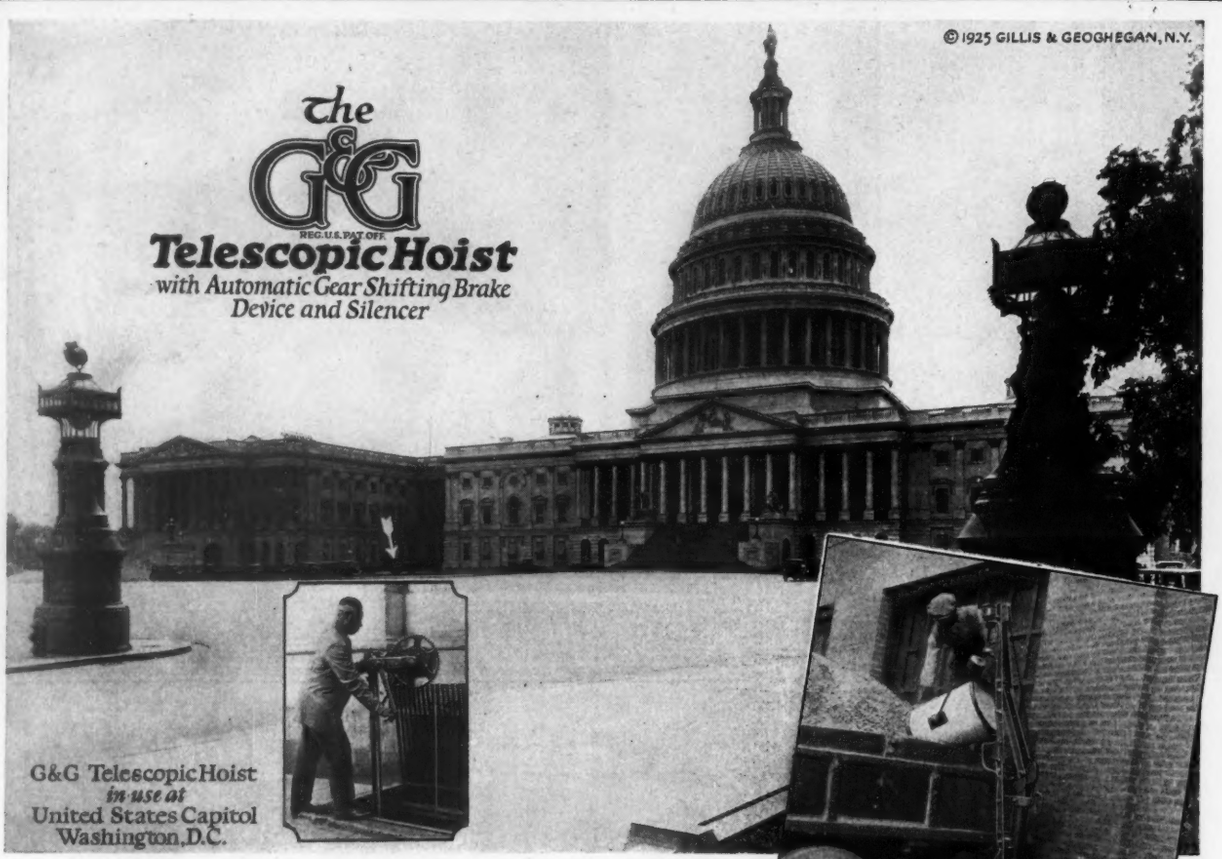


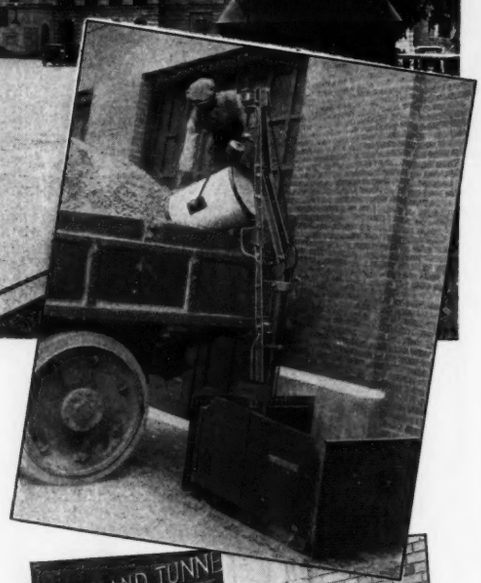

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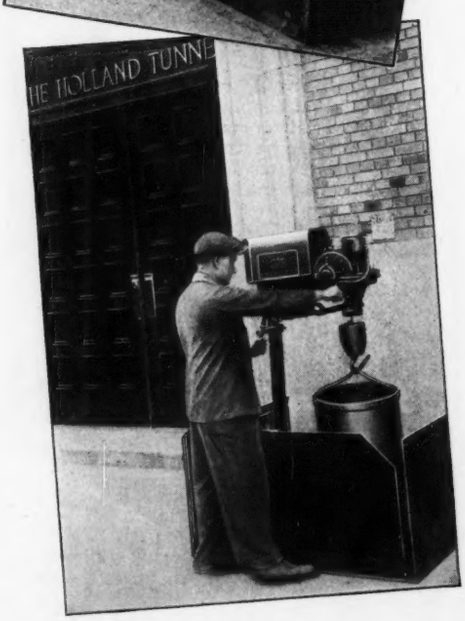
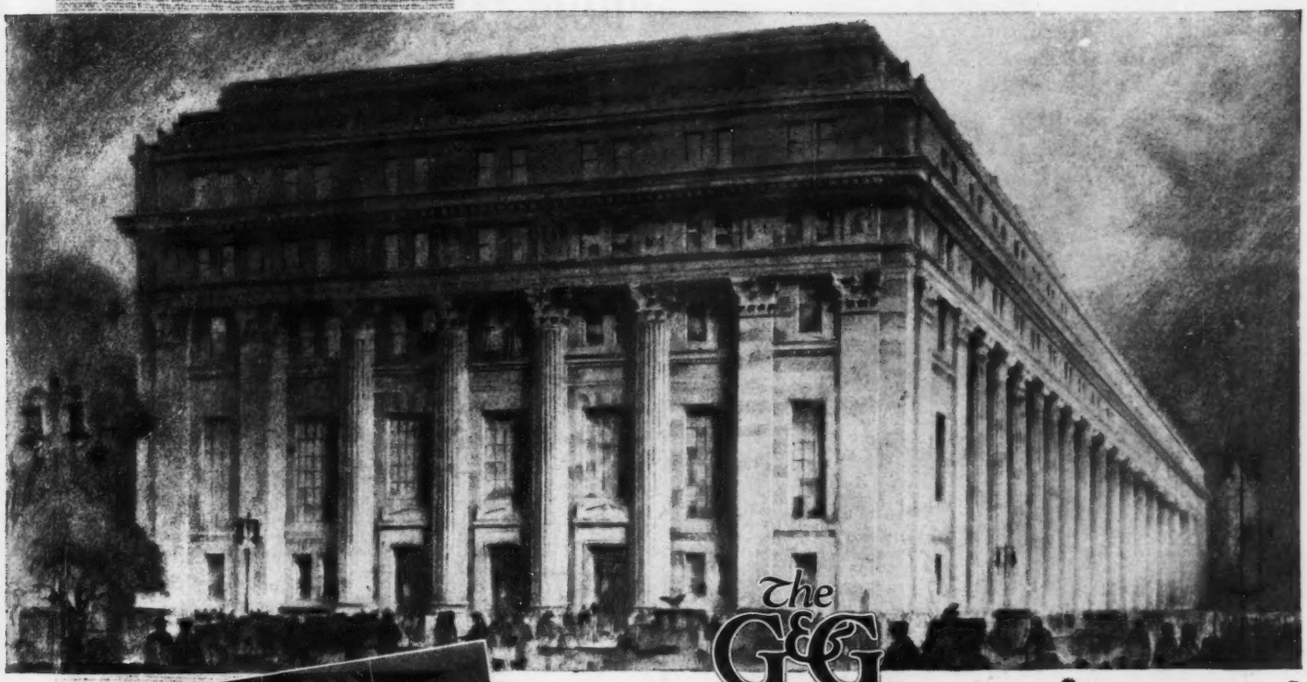
*Catalog in Sweet's Arch't. Cat., 23rd Ed., pp. D3729-37*
*Catalog in Specification Data, 1929 Ed., pp. 226-7*




## GILLIS & GEOGHEGAN

548 West Broadway New York, N. Y.



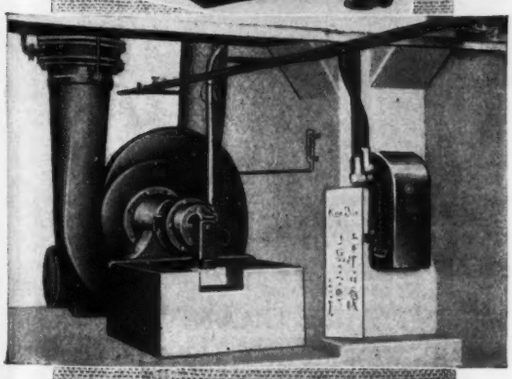
The G&G

REG. U.S. PAT. OFF.

ATLAS PNEUMATIC TUBE SYSTEM

# IN FAR AWAY JAPAN

## *A Tribute to American Architecture*



THE Bank of Mitsui & Co., Tokyo, will stand through the generations as a tribute to the creative design of Architects in America, as exemplified by the plans of Trowbridge & Livingston, New York, and to James Stewart & Co., General Contractors, who faithfully carried out the construction.

In this building a G&G Atlas Pneumatic Tube System (3 x 6 inch oval) makes possible the safe and rapid transmission of correspondence, documents, etc., between various departments. The upper left view illustrates the Central Station where carriers are received and dispatched. One of the stations on the main banking floor is shown in the center view. Motor and exhauster unit in basement is shown at lower left. The entire installation was made under our direct supervision.

Banks, hotels, hospitals, newspapers, libraries, mail-order houses, retailers, wholesalers, factories and large offices of all kinds use G&G Atlas Pneumatic Dispatch Tubes for speedily (30 ft. a second) distributing mail, telegrams, inter-office papers and light-weight articles among scattered departments. "Mechanical Messengers are faster and more dependable than human messengers."

*Catalog in Sweet's Arch't. Cat., 24th Ed., pp. D5113-15*
*Catalog in Specification Data, 1929 Ed., pp. 228-229*

**G&G ATLAS SYSTEMS, INC.**
**548 West Broadway New York**
**406 Dominion Bank Bldg., Toronto**

*NAMES such as these are familiar to every man and woman in the business world. G&G Atlas Pneumatic Tube Systems are in use in*

EQUITABLE TRUST CO. New York, N. Y. *Trowbridge & Livingston, Archts.*

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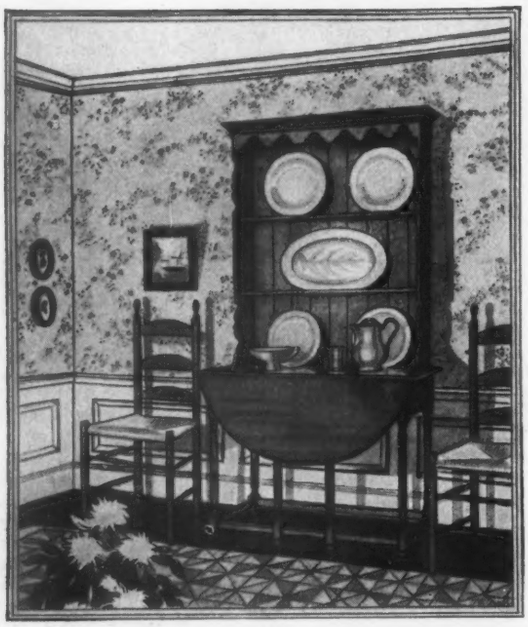
# Recommend Wall-Tex to these two classes of clients



THE CLIENT who never needs consider price, finds in Wall-Tex the embodiment of his artistic ideals. For this wall fabric offers him new designs of great beauty. Here's an opportunity to create murals of unusual loveliness! On the other hand, that client whose means are restricted, is even more enthusiastic over the unusual wearing qualities and attending economies. Here is a sound investment; a durable fabric wall covering.

Wall-Tex is a tightly woven canvas permeated with finest quality oils and colors. The passage of ten years finds it as fresh as the day when placed on the walls. Spots and dust hold no threat to Wall-Tex covered walls, for a little sponging removes all dirt. Should styles and fancy change, the original Wall-Tex covering may be used as a base for plaster, paint or smart lacquer treatments.

Every year many new and interesting designs are added to the already large Wall-Tex line—ALL are priced within the range of better papers. Decorators, builders and architects should use the margin of this page to note name and address in writing for booklet, *"The Modern Trend in Wall Coverings."*

THE COLUMBUS-UNION OIL CLOTH COMPANY
DEPT. H-12-29, COLUMBUS, OHIO

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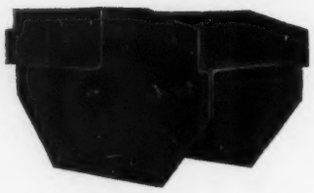
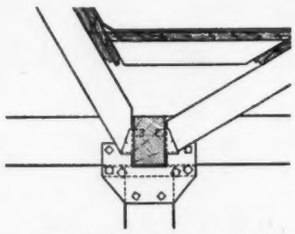


DUPLEX Steel Four Way Post Cap.



Showing detail of truss and column framing, saw tooth roof construction, using DUPLEX Four Way Steel Post Cap.

IN THE design of today's Mill Type Buildings the owner should have every modern feature developed by engineering skill.

This applies to details of framing as well as the newest developments in fireproofing, use of wood preservatives, etc.

DUPLEX Fittings at vital points in the framing complete the evidence of up-to-date design and show that the architect is planning for the client's best interest.

DUPLEX TIMBER FITTINGS BEST SINCE 1880

If you do not have a copy of "A Reference Book of Mill Building Construction" we'll be glad to send it.

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CLEVELAND, OHIO ESTABLISHED 1880

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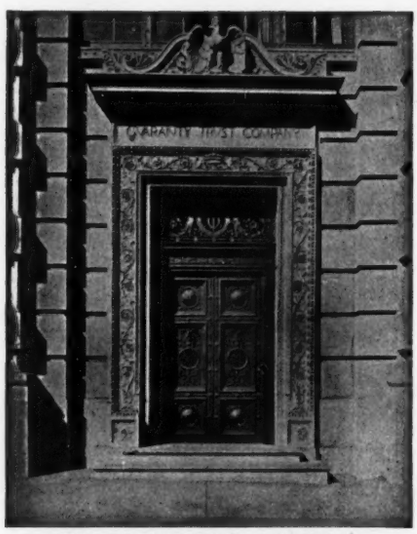

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DURABLE
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Lays flat and stays flat. Requires no white lead bedding. Will not buckle or peel.

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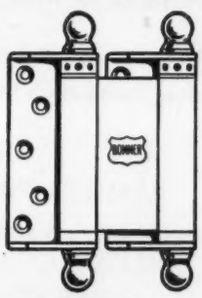
are the best



to specify

# Millions and Millions

of People are Pushing

# them

whenever they open a door

Catalog No. 50 Mailed free

Follow the line of least resistance

See details in "Sweet's"

Specify—**Bommer**—Always

They are the best

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## Genuine Polished Plate Wire Unmarred by Bubbles

BLUE RIDGE Polished Wire Glass satisfies a long-existing demand of the architects for dependable quality where fire-retardant glass is required for industrial, private, semi-public and public buildings.

It is distinguished by its freedom from bubbles around the wire, uniformity of wire mesh, glass quality, and highly polished surfaces. Blue Ridge Polished Wire Glass is made in ¼ in. thickness, in sheets up to 144 in. long and 48 in. wide.

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KEMITEX, because of its economy and lasting good appearance, is unexcelled for use in public buildings. An outstanding Kemitex installation is to be seen in the Chancery Building in Detroit. Architects, Donaldson and Meier of Detroit, Mich.

KEMITEX is the one shade-cloth which is scientifically treated with chemicals to resist heat, moisture and dirt.

Thus is Kemitex the only window shade material which is easily cleaned by washing with ordinary soap and water. Dirt may be ON but never IN this distinctively different shade-cloth.

Kemitex retains its original good appearance thruout many years of service—a length of time which makes Kemitex an economical investment, whether it is used in big public buildings or in homes.

Look where you will, you will find no window shade-cloth like Kemitex.

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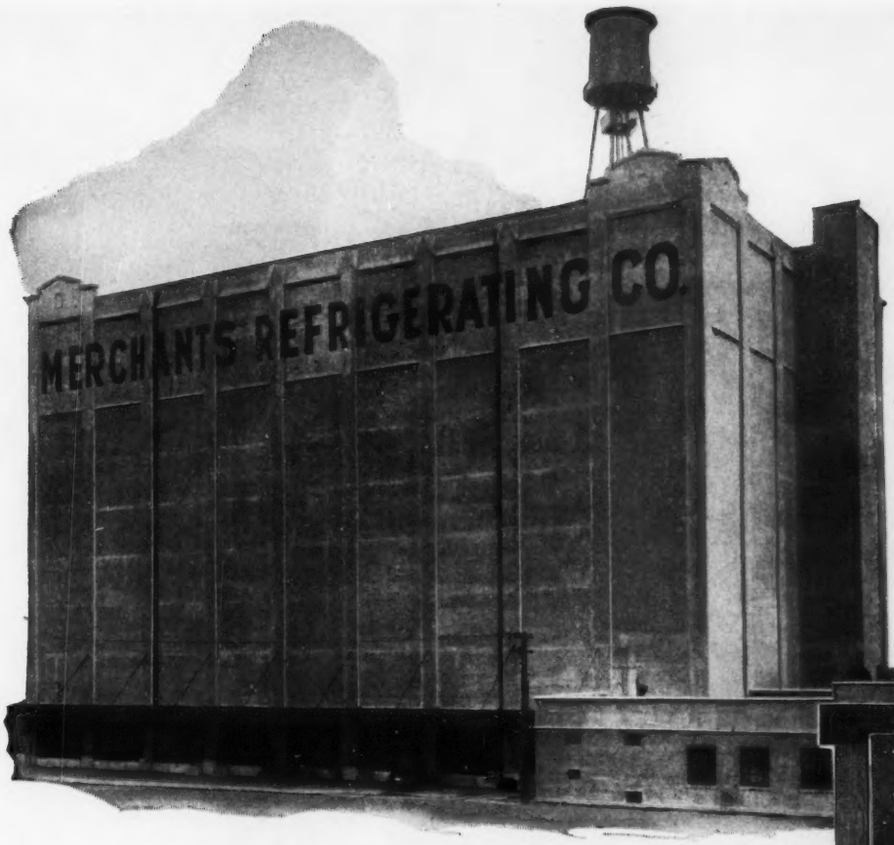
KEMITEX

A CHEMICALLY IMPREGNATED SHADE CLOTH

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# You see only part of it now!
## —*the rest in 20 years*

YOU can see the difference in a Jamison Door in the heavier and stronger hardware, and a more careful construction.

But the ***real*** difference won't be fully apparent for ten or twenty years when hard usage and temperature changes have had their effect.

By that time, repairs, even replacement, plus temperature losses can have doubled the original cost of the "cheap" door.

Our catalog shows why Jamison Doors can take hard usage through the years and stay on the job. Ask also for folder on the new Patented WEDGETIGHT Fastener. See also Sweet's Architectural Catalog.

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*Branch Offices:* 2 W. 45th St., NEW YORK . . . 1832 Builders Bldg., 228 N. La Salle St., CHICAGO . . . 2650 Santa Fe Avenue, LOS ANGELES . . . 333 Market St., SAN FRANCISCO . . . Southern Representatives, address Hagerstown . . . Foreign Agents: Von Hamm-Young, HONOLULU . . . Armstrong Cork Co., Ltd., LONDON . . . Okura & Company, JAPAN

With the 98 doors installed in this new plant at Newark, Merchants Refrigerating of New Jersey and New York have installed a total of 601 Jamison Doors.

# Jamison Cold Storage Doors

OLDEST and LARGEST makers of Cold Storage DOORS

*Voorhees, Gmelin & Walker, Architects* — *Executed by Irving & Casson—A. H. Davenport Co.*

## THE VOGUE SWINGS TO *NATURAL* INTERIORS

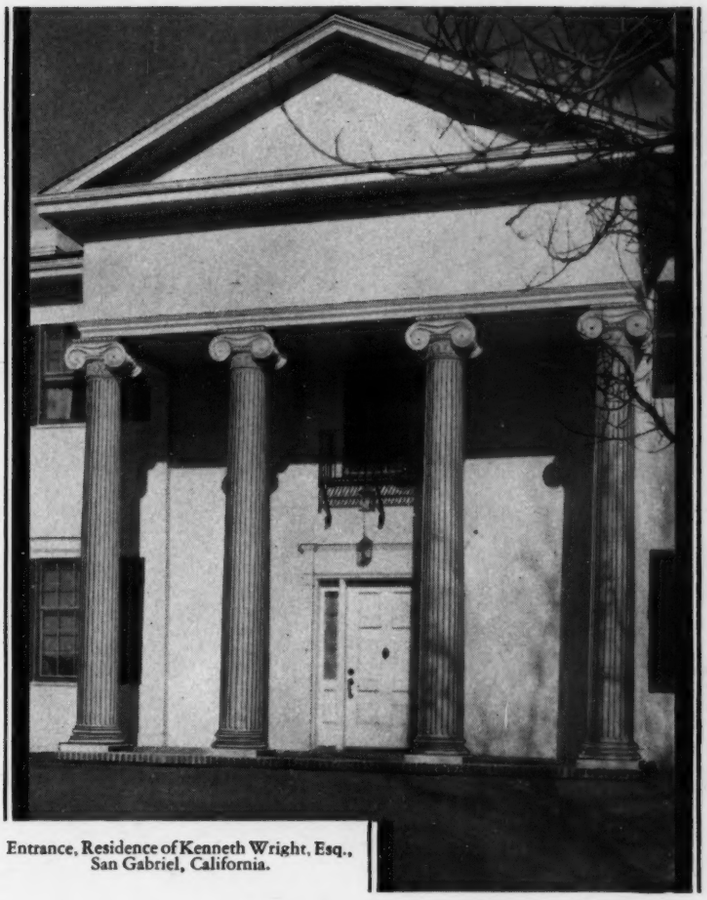
ARCHITECTS and interior decorators are using more Tidewater Red Cypress than ever before.

In this versatile wood, which is so famed for its durability, they find a charm of grain that can be found in no other material.

The profession finds it especially suitable for paneling, doors, window frames, base boards, molding, and many other places where a house might be made more beautiful by its exquisite beauty. Tidewater Red Cypress may be used just as it comes from the lumber yard, or it may be waxed, varnished, stained, sand-etched, charred or painted.

A BOOK OF INTERIORS—SENT FREE. Photographs of rooms designed by many famous architects have been assembled in an interesting book which will be sent to you free of charge, if you will write to the Southern Cypress Manufacturers' Association, Jacksonville, Florida.

# TIDEWATER RED CYPRESS



Entrance, Residence of Kenneth Wright, Esq., San Gabriel, California.

# Adding Age-Old Charm to Modern Buildings

Through the centuries the classical columns of Greece and Rome have stood unsurpassed in beauty, grace and dignity. And it is these columns which Union Metal has chosen to perpetuate. Today they are available to builders everywhere. Identical in design, and made with the same care which characterized the work of the ancients, these sturdy columns of steel add age-old charm to the work of modern architects.

Union Metal columns are die-pressed from enduring copper-bearing steel. They may be used freely without fear that the work will be disfigured by rapid deterioration. Yet the cost is only a fraction of that of stone or marble.

If you are not familiar with Union Metal columns, write for complete information.

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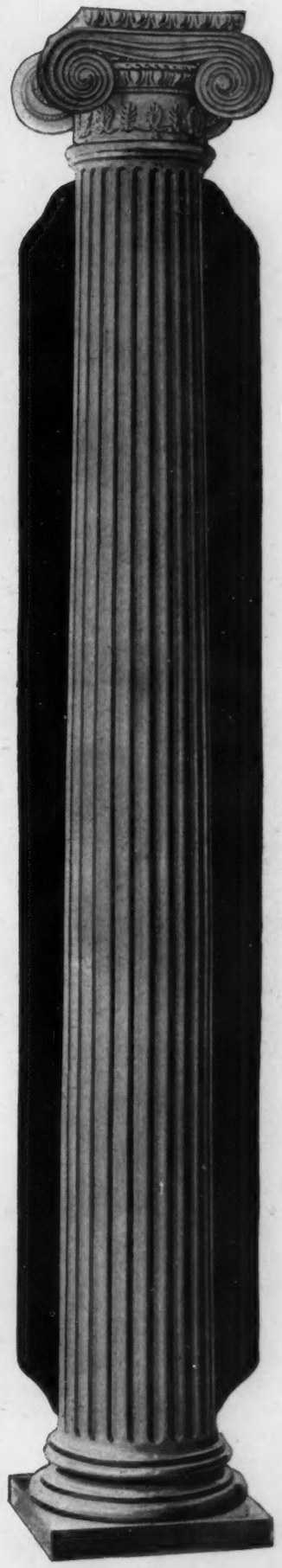
*General Offices and Factory,* Canton, Ohio
*Sales Offices*—New York, Chicago, Philadelphia, Cleveland, Boston, Los Angeles, San Francisco, Seattle, Dallas, Atlanta.
*Representatives throughout the United States*



***Union Metal Design No. 230 —Greek Ionic (Erechtheum). One of ten classical designs made in sizes from 8 inch to 42 inch diameters and heights from 5 to 35 feet.***

# UNION METAL COLUMNS

*"THEY LAST A LIFETIME"*

The sun room, Templeton Crocker apartment, San Francisco, California. When the twenty windows, between mirrored pilasters are closed and the curtains drawn, Frink concealed reflectors illuminate the room as with sunlight.

**THE FRINK CORPORATION**
369 LEXINGTON AVE., NEW YORK
Branches in Principal Cities

Plate No. 17 *Complete folio of these drawings sent on request*

*THE floor of this delightful kitchen by Ludlow & Peabody is of blue and buff triangular tiles. The walls are of buff with blue tiles forming the base, window sills and walls of the recess. The cabinets are painted a soft harmonizing green.*

*This hooded tiled recess into which the stove is built is both charming and practical. It conducts all vapors from the kitchen and adds a note of individuality.*

YOU DERIVE the greatest benefit from Keramic Tiles when the tiles are set by experts. Their skilled workmanship is instantly apparent. Select your tiling contractor for the quality of his work.

LUDLOW & PEABODY have made this kitchen a room individual, livable and interesting by the use of Keramic Tiles—real tiles.

Utilizing all the modern labor-saving conveniences—clothing them in restful but colorful tiles—Ludlow & Peabody have turned the kitchen, a room formerly associated with drudgery and drabness, into a room of individuality and cheer.

Keramic Tiles, with their changeless color and beauty and well-known wearing quality, make the perfect material for the modern kitchen. Their variety of sizes and shapes fits into any decorative scheme.

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# *The* Invisible Superintendent at the Mortar Box *makes a mortar that meets* ALL *requirements*

ONE PART BRIXMENT, three parts sand (no lime, no portland) makes a mortar that has the necessary strength and plasticity and many other advantages as well:

*So hard that a nail cannot be driven into the joint . . . Sets up even under water . . . Repels moisture . . . Does not cause efflorescence or fade colors . . . Uniform in strength and color . . . Makes neater brickwork due to convenient setting time and smooth-working qualities . . . Reduces cost of materials . . . Less labor in mixing (no soaking or slaking) . . . Saves bricklayer's time because of unusual plasticity . . . Especially good for winter work.*

Architect's handbook on request. Louisville Cement Company, *Incorporated,* Louisville, Ky.

District Sales Offices: 1610 Builders Bldg., *Chicago;* 301 Rose Bldg., *Cleveland;* 602 Murphy Bldg., *Detroit;* 101 Park Ave., *New York*

# BRIXMENT
## *for Mortar and Stucco*

# NOW...

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## Is Specified in Southern Pine Association Grading Rules

**STEP by step Southern Pine Association mills have led in the development of perfected manufacturing methods, to meet the needs of the lumber trade.**

**Uniform grades, supervision of grading at the mill, grade marking, and NOW... For each grade a guaranteed maximum moisture content.**

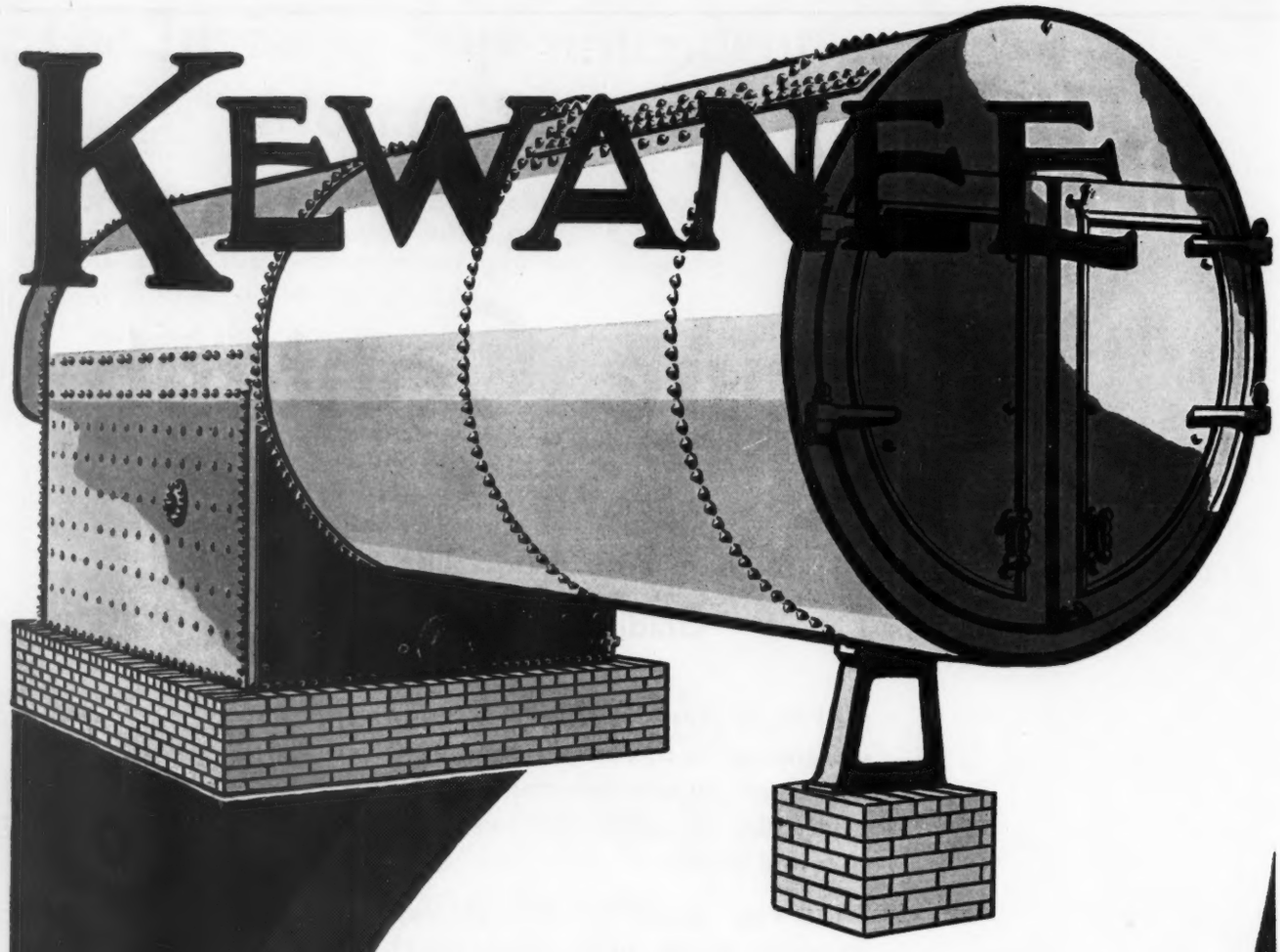
**These moisture content limitations now apply to all standard grades of Southern Pine lumber. Excessive moisture is now a defect, just as checks and knots.**

**Require the official grade mark. It is your guarantee of good lumber, correctly manufactured, properly dried and accurately graded . . . lumber that has been brought from the "Wilderness of Doubt" by the progressive activity of Southern Pine Association mills.**

**Have you received your copy of the Moisture Content booklet? One is waiting for you. Send for it today.**

*Southern Pine Association*

NEW ORLEANS




# Two savings are built into every Kewanee Boiler . . .

**The unusual strength and dependability of its steel-riveted construction adds many *extra* years to its life—reducing the cost-per-year-of-service to a very low figure.**

**And a Kewanee *saves fuel every year of its existence.* Boilers can be bought for less but they can't provide the same years of service, nor the same economy in the use of fuel, so in the end they actually cost more.**

KEWANEE BOILER CORPORATION
division of
American Radiator and Standard Sanitary Corporation
Kewanee, Illinois
*Branches in 40 Principal Cities*

# The ELDORADO PAGE

## Sketching with "Eldorado", the Master Drawing Pencil

This month each reader is asked to assist in making The Eldorado Page. Mr. Watson has sketched in light lines an interesting group of old houses in Portovenere. He asks you to complete the sketch by adding tones where in your judgment they will be most effective. You will naturally begin with the shadows at the top of the group. Place the sun where you wish it. Refer to The Eldorado Page for November for further explanation of this problem.

You may work right on this page with a 4B or 5B pencil and expect to get quite good quality of tone. But if you prefer, lay tracing paper over the drawing and experiment in that way. This will allow you to make as many trials as you desire.

If you have friends who are following the instructions of these pages, compare your result with theirs.

*This is one of a series of Pencil Lessons prepared by Ernest W. Watson. Write on your letterhead for sample of Dixon's Eldorado, "The Master Drawing Pencil." Joseph Dixon Crucible Co., Pencil Dept. 167-J, Jersey City, N. J.*

# A Free Employment Service for Readers of Pencil Points

*Replies to box numbers should be addressed care of PENCIL POINTS, 419 Fourth Avenue, New York, N. Y.*

**Position Wanted:** A senior designer in a large New York office desires to locate immediately in warmer climate owing to wife's health. Thoroughly competent. Present salary $100.00 a week. Consider any permanent connection west or south. Box No. 1200, care of PENCIL POINTS.

**Position Wanted:** In architect's office. Junior draftsman or otherwise. College student. Highest ambition. References. A. Peterson, 3420—100th St., Corona, L. I.

**Position Wanted:** Designer, draftsman, 38, 20 years' experience on all classes of work, seeks position as designer. Take charge of office. Salary $75.00 to start. Location Pacific Coast, Texas, Hawaii. For past 10 years with leading Denver architects. Consider partnership. Established. Box No. 1202, care of PENCIL POINTS.

**Position Wanted:** Young man, 23, desires change. Cooper Union graduate, Beaux-Arts student, would like to connect with architect promising future. Neat draftsman and good designer. Five years practical experience. Box No. 1203, care of PENCIL POINTS.

**Position Wanted:** Architect, registered, 20 years' experience north and south, native of New York, age 29, neat appearance. Able to manage small office, execute plans, meet clients, supervise construction, write specifications, etc. Seeks association with small growing office in either Brooklyn or New York. Consider New York State. Excellent references. Box No. 1204, care of PENCIL POINTS.

**Position Wanted:** Designer of long experience on school, residence, and commercial building. Capable of taking full charge. Salary $4.00 per hour. Box No. 1205, care of PENCIL POINTS.

**Position Wanted:** Young man, 24 years old, four years' architectural experience, would like position as business manager with architect. Credit experience with a national bank, two years of contact work meeting clients for well known decorating company. Full particulars on request if kept confidential. Box No. 1206, care of PENCIL POINTS.

**Wanted:** Architectural school graduate, preferably with office experience as advertising salesman, for high class architectural magazine, on salary. Box No. 1207, care of PENCIL POINTS.

**Position Wanted:** Young man, 21, desires position in office of a builder or architect. Two years' experience in office of general contractor-builder as junior estimator-bookkeeper-clerk. First year student of architectural drafting at Cooper Union Night School of Art. Knowledge of drafting and can typewrite. Box No. 1209, care of PENCIL POINTS.

**Position Wanted:** Graduate of Cooper Union in architectural drawing seeks position in architect's office as junior draftsman. Will submit drawings if so requested. Salary secondary. Box No. 1201, care of PENCIL POINTS.

**Position Wanted:** Architectural specification writer of long experience and highest references is open to make a change. Box No. 1210, care of PENCIL POINTS.

**Position Wanted:** Designer and draftsman, age 25, studied in best architectural schools for five years. Have had two years' experience in offices. Wishes to connect with firm specializing in residence work. Box No. 1211, care of PENCIL POINTS.

**Position Wanted:** Graduate Mass. Inst. of Technology, 29, married, seven years' experience in the preparation of plans and specifications for building illumination and power for architects and engineers. Salary open. Box No. 1212, care of PENCIL POINTS.

**Wanted:** Landscape salesman. A man of good appearance and education, capable of selling to a high class clientele in the Philadelphia area. This is an excellent opportunity to form a profitable connection with a rapidly growing landscape contracting organization. Box No. 1213, care of PENCIL POINTS.

**Position Wanted:** Engineer, 16 years' experience in building construction as engineer, estimator, and contractor's manager on all types of steel, skeleton, and reinforced concrete building, seeks association with capable architect. Licensed graduate C.E., member A.S.C.E., age 34. Box No. 1214, care of PENCIL POINTS.

**Position Wanted:** Tracer. Beginner attending Brooklyn Tech and one year in Pratt Institute. Louis J. Costello, 2326 Madison St., Ridgewood, N. J.

**Wanted:** The services of an architectural designer for ecclesiastical work. One who is able to develop original ideas, do color rendering and perspective. Must be able to work in the major styles of architecture. A very good field for a future for a designer desirous of doing church work. Box No. 1215, care of PENCIL POINTS.

**Position Wanted:** Superintendent-draftsman desires position with architect or contractor. Ten years' experience on all types of work. Any location for permanent job. College graduate. Married. Apartment 16, 149 Lincoln Ave., Newark, N. J.

**Position Wanted:** Architectural draftsman, working drawings a specialty from sketch to completion. Age 30, B.A. degree, seven years' New York experience on various types of construction and building. Also plan sketcher. Salary to start $60.00. Box No. 1217, care of PENCIL POINTS.

**Position Wanted:** Junior draftsman attending night school for 3 years. Have also worked in office for 2 months and also on construction job as superintendent's assistant checking time and material. John Jacoppi, 1138 First Ave., New York, N. Y.

**Position Wanted:** Chief draftsman or office manager, now in Ohio, three and one-half years' experience in a similar capacity, 35 years of age, married, desires permanent connection with an architectural office in New York City or vicinity doing a general line of work employing from 5 to 10 draftsmen. Technical graduate, 12 years' general architectural experience, familiar with office routine, design, details, specifications. Salary $85.00 per week. Box No. 1219, care of PENCIL POINTS.

**Space for Rent:** Architect has space to sublet—Grand Central zone. Telephone Vanderbilt 4658 for particulars.

**Position Wanted:** Designer with wide general experience wishes work with architect doing good class of work, preferably in Middle Western States. Box No. 1120, care of PENCIL POINTS.

**Position Wanted:** With architect or contractor as superintendent of construction. Twenty-five years' experience in all classes of public and private buildings. Good organizer, estimator and can handle sub-contractors and material men. Have record of finishing work up on time. Box No. 1221, care of PENCIL POINTS.

**Position Wanted:** Stenographer-secretary desires position in architect's office. Eight years' experience stenographic work, specifications, bookkeeping and thorough knowledge of all details of office work. Box No. 1222, care of PENCIL POINTS.

**Position Wanted:** Secretary-stenographer, ten years' experience (three months in architect's office). High School graduate, accustomed to meeting people, answering correspondence alone and taking care of office details. Would like position in architect's office. Salary $35.00 a week. Box No. 1223, care of PENCIL POINTS.

**Position Wanted:** Draftsman, twenty-three, five years' experience ornamental iron and bronze, Cooper graduate, technical education, desires position with architect. Samples and references. Box No. 1224, care of PENCIL POINTS.

**Position Wanted:** Draftsman, University training, five years' experience residential work, desires position in architect's or contractor's office. Part or whole time. Residential work only. Box No. 1225, care of PENCIL POINTS.

**Position Wanted:** Young woman, ten years' experience in drafting, designing residences, small churches, etc. Good letterer. Also stenographer, filing, quantitative analysis, and all details connected with architect's office. Prefer environs of New York. W. Wigginton, 324 West 107th St., New York, N. Y.

**Position Wanted:** Pratt architectural student would like part time position for evening and Saturday work. Technical High School graduate. Arthur Alexander, 3049 Humbert St., Brooklyn, N. Y.

**Part Time Work Wanted:** By draftsman with varied experience. Box No. 1226, care of PENCIL POINTS.

**Position Wanted:** Senior architectural student at Columbia University and practical draftsman desires spare time employment at architectural drafting. Box No. 1228, care of PENCIL POINTS.

*(Other items on page 84, Advertising Section)*

# ★But the Law Can Be Changed—

## (*The Story of Negative Capillarity*)

THE natural law which makes concrete subject to attack and eventual disintegration by moisture can be changed to a law protecting concrete. Under the force of positive capillarity, water is drawn into any small pore or cavity in any material whatsoever. Concrete, being filled with countless tiny capillaries, is subject to this law.

Now, if you will take a fine glass tube and coat the inner wall with oil or any substance which will prevent the water from wetting the surface and then place the tube in a glass of water, you will find that the water level in the tube will not rise to the level of the water in the glass. The water resistant character of the coating changes the law of positive capillarity to negative capillarity. Water is repelled instead of attracted.

If you want to prevent moisture from entering concrete, you can only do so by making all of the little pores and cavities in the mass water repellent. So far as the permanence of your concrete is concerned, nothing in your building operation could be more important and, at the same time, nothing more simple to accomplish.

*Coat a capillary space with a water repellent substance and you destroy capillary attraction. A tube coated with oil inside will show a lower level than the glass in which you place it.*

Truscon Waterproofing Paste Concentrated is introduced into concrete when it is mixed, intermingles thoroughly with its elements, and makes every one of the tiny pores repellent to water. This is an integral and permanent waterproofing protecting the concrete against water for all time. And it is the only practical method of obtaining complete waterproofing protection for concrete. Its use involves no extra labor and very slight cost while the results in preserving appearance and structural strength have been proved in countless instances.

★ *This is No. 8 of a series of non-technical explanations prepared by R. A. Plumb, General Director of The Truscon Laboratories, on the necessity for integrally waterproofing all concrete used in building.*

R. A. Plumb

*General Director of*
THE TRUSCON LABORATORIES

*Write for free data on the practical uses of Truscon Waterproofing Paste Concentrated.*

THE TRUSCON LABORATORIES ▱ ▱ DETROIT, MICHIGAN
OFFICES IN ALL PRINCIPAL CITIES • • FOREIGN TRADE DIVISION, NEW YORK

Specify TRUSCON WATERPROOFING

# A Free Employment Service for Readers of Pencil Points

*Replies to box numbers should be addressed care of PENCIL POINTS, 419 Fourth Avenue, New York, N. Y.*

**Position Wanted:** Architect, 25 years' experience, is open for position with architect as partner, or to run office, or with individual or chain store corporation. Following of friends; some means. Box No. 1227, care of PENCIL POINTS.

**Position Wanted:** Architectural student, 19 years old, desires position in architect's office in Baltimore. Samples of work and references will be furnished. Box No. 1229, care of PENCIL POINTS.

**Partnership or Position Wanted:** Architect, 31, graduate of a recognized college of architecture, 8 years' experience on various types of buildings, wants partnership with an established architect or a position. Box No. 1230, care of PENCIL POINTS.

**Position Wanted:** Registered architect of New York State, 20 years' experience in high class offices, desires to make connection as office manager or partner. Box No. 1231, care of PENCIL POINTS.

**Overtime Work Wanted:** Architectural draftsman experienced on office buildings, schools, institutions, hospitals, apartments and residences. Can take job at any stage and carry to completion with minimum of attention. Box No. 1232, care of PENCIL POINTS.

**Wanted:** An architect in New York City is desirous of obtaining a draftsman who is capable on the very highest type of domestic work and who is also competent in connection with commercial work in New York City and who understands thoroughly the requirements and limitations of the Building Code. Please write full particulars as to qualifications in first letter. Box No. 1233, care of PENCIL POINTS.

**Position Wanted:** Young man, married, would like position with architect specializing in industrial buildings. Knowledge of the workings of a great number of industries. Two years' study with I.C.S. No practical experience. Box No. 1234, care of PENCIL POINTS.

**Position Wanted:** Structural engineer, seasoned designer, accustomed to work with architects and to handle every structural problem, seeks connection with New York firm. Best references. Box No. 1235, care PENCIL POINTS.

**Position Wanted:** Registered architect, age 35, broad experience, seeks connection with architect as specification writer, checker construction supervision. Best references. Box No. 1236, care of PENCIL POINTS.

**Position Wanted:** Young man, 26, wishes position in New York City. Has had two and one-half years' residential experience and over one year on mausoleum work. Also Class A student of the Beaux Arts. $35.00 per week. Good references. Box No. 1237, care of PENCIL POINTS.

**Position Wanted:** Young architect, 35, as assistant to older architect. Registered in New York. B & M Architect. Two and one-half years abroad. Middle West and New York City experience. Designer. Also close contacts with execution of large and small work. Exchange of references as to professional and financial standing. Box No. 1238, care of PENCIL POINTS.

**Position Wanted:** With large concern somewhere in South America. Cooper Union Graduate. Two years at Columbia University. Five years' architectural experience. Three years' ornamental iron and structural steel estimator. Box No. 1239, care of PENCIL POINTS.

**Position Wanted:** Architectural draftsman, designer, can handle job from sketches to completion. 31 years old, single, college graduate, ten years' general experience on commercial, school, theatre, high class alterations and residential buildings. Will locate anywhere. Box No. 1240, care of PENCIL POINTS.

**Position Wanted:** Senior architectural draftsman. Can produce work from sketches to finished working drawings, details, specifications. Experienced in supervision, structural design, residence work, commercial, theatrical, school, apartment and industrial buildings. Age 34. Married. Box No. 1241, care of PENCIL POINTS.

**Position Wanted:** Architect with long experience desires to make a connection in New York City either with an architect or as a manufacturer's representative. Box No. 1242, care of PENCIL POINTS.

**Position Wanted:** Secretary, young woman experienced in architectural office work, typing, stenography, bookkeeping, etc., wishes position in office of New York architect. Box No. 1244, care of PENCIL POINTS.

**Position Wanted:** Young man, 3 years' architectural, two years' surveying experience, would like position with architect. Box No. 1243, care of PENCIL POINTS.

**Work Wanted:** Specifications carefully typed from original manuscript, back-up copies ready for blue printing. W. H. Frothingham, 52 Imlay Street, Hartford, Conn.

**Wanted:** Thoroughly competent and diligent architectural draftsman with not less than ten years' experience who can assume charge of drafting room and see that drawings are turned out right from sketches. Mostly country house work. Requires man of good taste and appreciation of residence planning with considerable experience in such class of work and thoroughly familiar with frame construction, structural details, etc. Office is located in Connecticut. Write full particulars in first letter. Box No. 1245, care of PENCIL POINTS.

**Position Wanted:** Draftsman, residential, 8 years' practical experience. Can take job from sketches to working drawings, three-quarter-inch scale and F.S. drawings and computation of necessary lintels, beams, etc. Good knowledge of construction. Address D-31, 3965 Sedgwick Avenue, New York, N. Y.

**Position Wanted:** Architect-superintendent, sixteen years' experience with leading architects in the construction of hotels, banks, theatres and commercial buildings of all kinds. Box No. 1246, care of PENCIL POINTS.

**Position Wanted:** Secretary, 7 years' experience, architectural and general contracting concern. Accurate specification writer, receptionist. Employed at present. Salary $40.00. Box No. 1247, care of PENCIL POINTS.

**Position Wanted:** Capable and hard working young man wishes to locate in an architect's or builder's office. Eight years' construction experience, one year drafting, one year heating layout and estimating. Graduate architectural course in drawing. At present evening student of Drexel Institute. Box No. 1248, care of PENCIL POINTS.

**Position Wanted:** Business girl, secretary to architect or executive in building trades. Familiar with selling, especially display and showroom work requiring meeting of architects or high class clientele. Thorough knowledge of stenography and office management. Box No. 1250, care of PENCIL POINTS.

**Position Wanted:** Young man, 7 years' experience in Dublin, desires position as draftsman. General experience, working drawings, detailing, surveying and levelling. Knowledge of Georgian design. Member of the Royal Institute of the Architects of Ireland. J. H. Watson, 1525 East 16th St., Brooklyn, N. Y.

**Position Wanted:** Licensed architect, 19 years' experience as draftsman, designer, chief draftsman, desires connection with New England or Middle Western architect. Capable of assuming entire charge of a medium sized office and getting results. Sketches, working drawings and specifications. Age 40, married, Gentile. Unquestionable references. Box No. 1249, care of PENCIL POINTS.

## *PERSONALS (Continued)*

*(Continued from page 890, Editorial Section)*

VICTOR GALIER has moved from the Society for Savings Bldg. to 201-202 Marshall Bldg., Cleveland, Ohio.

DANIEL DENISON STREETER, ARCHITECT, announces that he has opened an office at 101 Park Avenue, New York. The Brooklyn office remains at 217 Havemeyer Street.

W. E. KITTLE, ARCHITECT, is opening an office at 521 Robeson Building, Champaign, Ill.

PAUL H. SMITH, ARCHITECT, has moved from 10 West Elm St., Chicago, to 1600 Peoria Life Bldg., Peoria, Ill.

LAWRENCE, HOLFORD, ALLYN & BEAN have moved from the Chamber of Commerce Building to 925 Failing Building, 5th and Alder Streets, Portland, Oregon.

CHARLES A. HAUSLER, ARCHITECT AND ENGINEER, and Harry Firminger, Associate, have moved from 642-643 Hamm Bldg., to 702 New Minnesota Bldg., St. Paul, Minn.

DAVIS & WALLDORFF, ARCHITECTS, have moved their office from 17 to 29 Whitney Avenue, New Haven, Conn.

## STRUCTURAL STEEL CREATED THE SKYSCRAPER

# STEEL

## proved before it is used

A STEEL structural member is a finished product before it goes into place. Its manufacture has proved — through constant inspection . . . test . . . analysis—that steel is qualified to serve anywhere, any time, with unfailing strength and unquestioned security. The very nature of the manufacture of structural steel — its unvarying chemical composition, its shaping through repeated rolling processes—forestalls any possibility of hidden weaknesses. Steel is *proved* right before it is shipped from the mill.

Specify steel with thorough confidence. Use it with assurance, for its properties are *known*. Build with steel to save time in construction, to bring sooner occupancy and quicker dividends. Use steel to defeat obsolescence—for steel buildings and bridges are most quickly, easily and economically altered . . . extended . . . remodeled . . . removed. Steel by test, by experience, by common acceptance, is the most suitable material for modern construction.

A Technical Service Bureau is at the disposal of architects, engineers, owners and others who have need of information which can be supplied through the American Institute of Steel Construction, Inc.

*Free to architects only! This Hugh Ferriss rendering will be mailed on request. It is enlarged to approximately one and one-half times the size of the above illustration and reproduced on special stock for framing.*

## AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC.

The co-operative non-profit service organization of the structural steel industry of the United States and Canada. Correspondence is invited. 200 Madison Avenue, New York City. District offices in New York, Worcester, Philadelphia, Birmingham, Cleveland, Chicago, Milwaukee, St. Louis, Topeka, Dallas and San Francisco. The Institute publishes twelve booklets,

***STEEL***

***INSURES STRENGTH***

***AND SECURITY***

one on practically every type of steel structure, and provides also in one volume, "The Standard Specification for Structural Steel for Buildings," "The Standard Specification for Fireproofing Structural Steel Buildings," and "The Code of Standard Practice." Any or all of these may be had without charge, simply by addressing the Institute at any of its offices.

# PUBLICATIONS

## OF INTEREST TO THE SPECIFICATION WRITER

*Publications mentioned here will be sent free unless otherwise noted, upon request, to readers of* PENCIL POINTS *by the firm issuing them. When writing for these items please mention* PENCIL POINTS.

**Lupton Commercial Projected Windows.**—A.I.A. File No. 16-e-1. New document prepared especially for architects, draftsmen and specification writers contains much useful data on this type of window including specifications, vertical and horizontal sections, elevations, construction details, hardware, sizes, etc. 24 pp. Standard filing size. David Lupton's Sons Co., Allegheny Ave. and Tulip St., Philadelphia, Pa.

*Published by the same firm, "Steel Industrial Doors." A.I.A. File No. 16-d-1. New publication on this line of steel doors for factories, mills, warehouses, power houses, etc. Specifications, sizes, details of construction, hardware, etc. 8 pp. 8½ x 11.*

*"Commercial Steel Doors." A.I.A. File No. 16-d-1. Standard filing size data sheet with sizes, construction details, etc., covering this type of door for private and public garages, manufacturing plants, etc.*

**Weatherbest Thatch Roofs.**—A.I.A. File No. 19-d-1. Attractive brochure with descriptive data, specifications, and detail drawings covering the construction of thatch straw effect roofs with Weatherbest stained shingles. Illustrations show numerous designs of thatch effect roofs. 24 pp. Standard filing size. Weatherbest Stained Shingle Co., Inc., North Tonawanda, N. Y.

**Blackboards and Bulletin Boards.**—A.I.A. File No. 35-b-12. Useful reference document for architects describes and illustrates a complete line of school blackboards and bulletin boards each designed for a particular purpose. Specifications, detail drawings, tables, etc. Indexed. 16 pp. 8½ x 11. E. W. A. Rowles Co., 2345 South La Salle St., Chicago, Ill.

**Mosaic Tiles for Stores and Business Houses.**—A.I.A. File No. 23-a. New booklet with series of color plates showing the adaptability of this line of tiles, including hand made Faience tile, as an exterior and interior surfacing material for stores, restaurants, banks, showrooms, etc. 12 pp. Standard filing size. The Mosaic Tile Co., Zanesville, Ohio.

**Cabot's Quilt.**—Looseleaf catalog with samples of this material and complete descriptive data covering its use for sound deadening, acoustical correction and heat insulation in apartments, schools, hospitals, offices and homes. Specifications, detail drawings showing methods of application to different kinds of construction and reprint of report issued by Bureau of Standards on the subjects of thermal insulation and insulating materials. Standard filing size. Samuel Cabot, Inc., 141 Milk St., Boston, Mass.

**G-E Fiberduct for Underfloor Wiring.**—Publication GED-309 illustrates and describes this new non-corrosive raceway for underfloor wiring in concrete floors. Typical installations, layout diagrams, dimension drawings. 8 pp. 8½ x 11. General Electric Co., Merchandise Dept., Bridgeport, Conn.

**Marvelwite T Chemical Enamel.**—Illustrated data and specification folder covering this acid and fume resisting coating for use in hospitals, laboratories, chemical and industrial plants, etc. 4 pp. Standard filing size. L. Sonneborn Sons, Inc., 114 Fifth Ave., New York, N. Y.

**Metal Lath Construction for Better Plastering and Stucco.**—A.I.A. File No. 20-b-1. Enlarged and revised edition of former specification document contains both specifications and detail drawings pertaining to all forms of metal lath construction. Valuable reference document for architects, draftsmen and specification writers. 24 pp. Standard filing size. Associated Metal Lath Manufacturers, Inc., 1821 Engineers Bldg., Chicago, Ill.

**The Hood Extension Garment Hanger.**—A.I.A. File No. 27-d. Illustrated folder gives complete information covering this type of garment hanger for use in homes, hotels, apartments and offices. 8½ x 11. Extension Garment Hanger Co., Inc., Dallas National Bank Bldg., Dallas, Texas.

**Cleaning Methods for Modern Hotels.**—A.I.A. File No. 35-j-1. Attractive new publication presents much useful information for architects on central cleaning systems for hotels, with description of Spencer system. Profusely illustrated. 16 pp. Standard filing size. The Spencer Turbine Co., Hartford, Conn.

**The Bryant Silent Call Hospital Signal System.**—A.I.A. File No. 31-i-1. Bulletin No. H. S. 622 illustrates and completely describes this type of hospital signal system equipped with pull control switches. Its function, construction, operation and installation are explained in detail. Wiring diagrams, layouts, etc. Indexed. 46 pp. 8⅜ x 10. The Bryant Electric Co., 1421 State St., Bridgeport, Conn.

*Published by the same firm, "Hemco Flush Plates in the Modern Vogue." Bulletin No. 3 illustrates in color this line of moulded flush plates designed to harmonize with the color trend of modern home decoration. Standard filing size.*

**Lansdale-Craig Water Tube Heating Boilers.**—New illustrated catalog gives complete information on this type of coal and oil burning boiler for homes, apartments, factories, garages, etc. Performance tables, sizes, commercial ratings, dimensions. 12 pp. 8½ x 11. Central Radiator Co., Graybar Bldg., New York, N. Y.

*Published by the same firm, "The Gray Sentry Boiler." Illustrated bulletin covering this type of coal or oil burning boiler for steam vapor or hot water heating. Performance tables, sizes, commercial ratings, dimensions, etc. 8 pp. Standard filing size.*

*"The Lansdale Boiler." New bulletin setting forth the advantages of this line of equipment for steam and hot water heating. Ratings, sizes, etc. 8½ x 11.*

**Rossman Dust Pressed Faïence.**—Bulletin No. 6, just issued, contains condensed information on this line of tiles. In addition to the rim shapes and color plates, the various illustrations suggest a few of the many practical installations and harmonious color combinations possible through the use of this material. 16 pp. 8½ x 11. Rossman Corporation, 160 East 56th St., New York, N. Y.

**Delany Flushboy.**—A.I.A. File No. 29-h-21. Folder describing the construction of this type of flush valve. Roughing-in dimensions. 4 pp. 8½ x 11. Coyne & Delany Co., 832 Kent Ave., Brooklyn, N. Y.

**The R C A Auditorium Radiola-Phonograph.**—New illustrated bulletin describing this combination Radiola-phonograph and speaker adapted for use in large rooms, and auditoriums such as those in schools, theatres, hotels, large houses, public institutions and centers of entertainment. Standard filing size. Radio-Victor Corporation of America, 233 Broadway, New York, N. Y.

**The Artistic Bridge—1928 Award.**—Handsome brochure describing and illustrating the Sixth Street Bridge, Pittsburgh, Pa., which was selected by a national jury appointed by the American Institute of Steel Construction as the most beautiful steel bridge completed during 1928. Standard filing size. American Institute of Steel Construction, 200 Madison Ave., New York, N. Y.

**Josam New Products.**—Folder describes and illustrates closet fittings and bends, open seat swing check valves, open seat backwater sewer valves, double eccentric adjustable flange unions and duo-step adjustable concrete inserts. The Josam Manufacturing Co., 4800 Euclid Bldg., Cleveland, O.

*Published by the same firm, "Josam Open Seat Swing Check Valves." Descriptive data folder covering this type of check valve.*

**Light Type Sealair Windows.**—A.I.A. File No. 16-d-3. Specification and data folder with detail drawings covering light type Sealair independent balanced sash windows. 8½ x 11. The Kawneer Company, Niles, Mich.

*Published by the same firm, "Heavy Type Sealair Windows." A.I.A. File No. 16-d-3. Standard filing size bulletin giving descriptive data and specifications on heavy type Sealair independent balanced sash windows. Detail drawings.*

*"New In-Swinging Sealair Windows." A.I.A. File No. 16-d-3. Bulletin with specifications and detail drawings devoted to this type of window. 8½ x 11.*

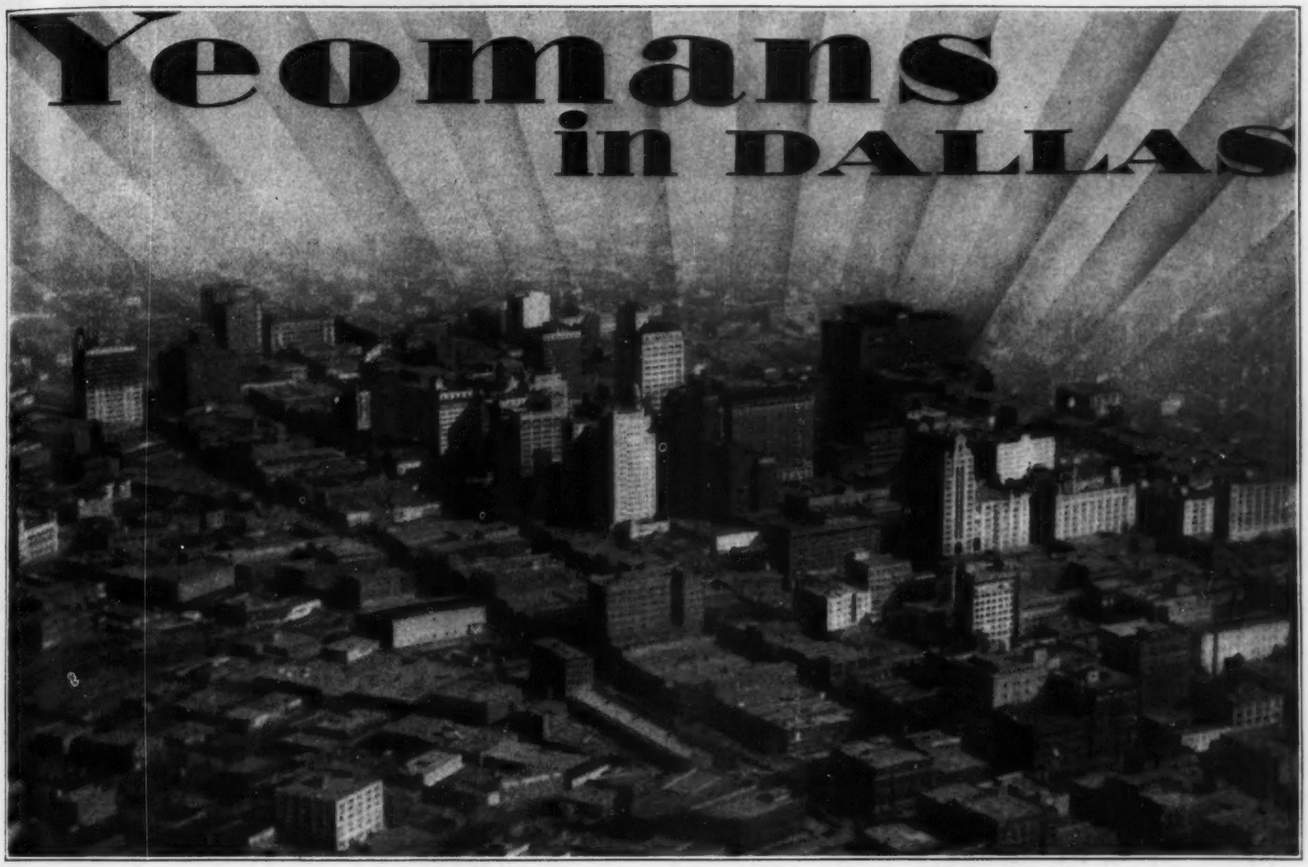
**Ehret's Magnesia.**—Catalog No. A-26. Handbook on the subject of insulation for power, heat, water and refrigeration, with complete technical information on Ehret's magnesia products. Illustrations, charts, specifications and tables. 88 pp. Standard filing size. Stiff covers. Ehret Magnesia Mfg. Co., Valley Forge, Pa.

**Transformation—From an Old House to a New Home.**—New booklet demonstrates the possibility of developing true architectural types from commonplace houses. Series of plates showing typical old homes and new architectural designs developed for each in several variations of treatment. 16 pp. 8½ x 11. National Lumber Manufacturers Assn., Transportation Bldg., Washington, D. C.

**Roddis Flush Doors.**—A.I.A. File No. 19-e-12. Attractive new brochure gives complete data on the design and construction of this modern door for all types of buildings. Many designs and representative installations are illustrated. Specifications, details. Indexed. 44 pp. Standard filing size. Roddis Lumber & Veneer Co., Marshfield, Wis.

*Published by the same firm, "Roddis Flush Doors in Schools." A.I.A. File No. 19-e-12. New bulletin describing and illustrating several types of doors especially adapted to school building design. Construction details. 8½ x 11.*

# Yeomans in DALLAS



## The Standard

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Majestic Theatre
Perkins Dry Goods Bldg.
Republic National Bank Bldg.
Santa Fe Bldg.
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Winnetka School
Maple Terrace Apts.
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Kress Store
Higginbotham, Bailey, Logan Bldg.
Ferris-Dunlap Company
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Insurance Bldg.
Aschner Bros. Bldg.
Wapples Platter Bldg.
Louis Blaylock Bldg.
Trinity Presbyterian Church
Bowie School
Kirby Bldg.
City Park School
Travis School
Queen Theatre
National Theatre
City Temple
Cumberland Hill School
Dallas County Jail
Methodist Publishing House
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**And Many More**

**In the South, too, architects and engineers have a very high regard for Yeomans Sewage and Drainage Pumps, as evinced by the accompanying list of Dallas buildings, Yeomans protected.**

**When an architect or engineer specifies Yeomans, he does so with complete confidence, knowing that the products bearing that name are built strictly on a quality basis. He knows that Yeomans Pumps will do the job for which they are intended and stand up for a long period of years. He can be absolutely "sure" when Yeomans Pumps go in and will not risk his reputation even for the sake of a lower price.**

**YEOMANS BROTHERS COMPANY**
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*Representatives in Principal Cities*

YEOMANS PUMPS · GIVE YEOMAN SERVICE ·

# Yeomans Pumps

## Sewage and Drainage

ALCOA
ALUMINUM

BOTH the decorative and the practical qualities inherent in Aluminum have been recognized and taken advantage of in an interesting way by Wm. Van Alen, architect for the Chrysler Building —now in process of construction.

One hundred and eighty-five ornamental Aluminum Spandrels of three different patterns are placed between the upper and lower tiers of windows from the 21st to 24th floors.

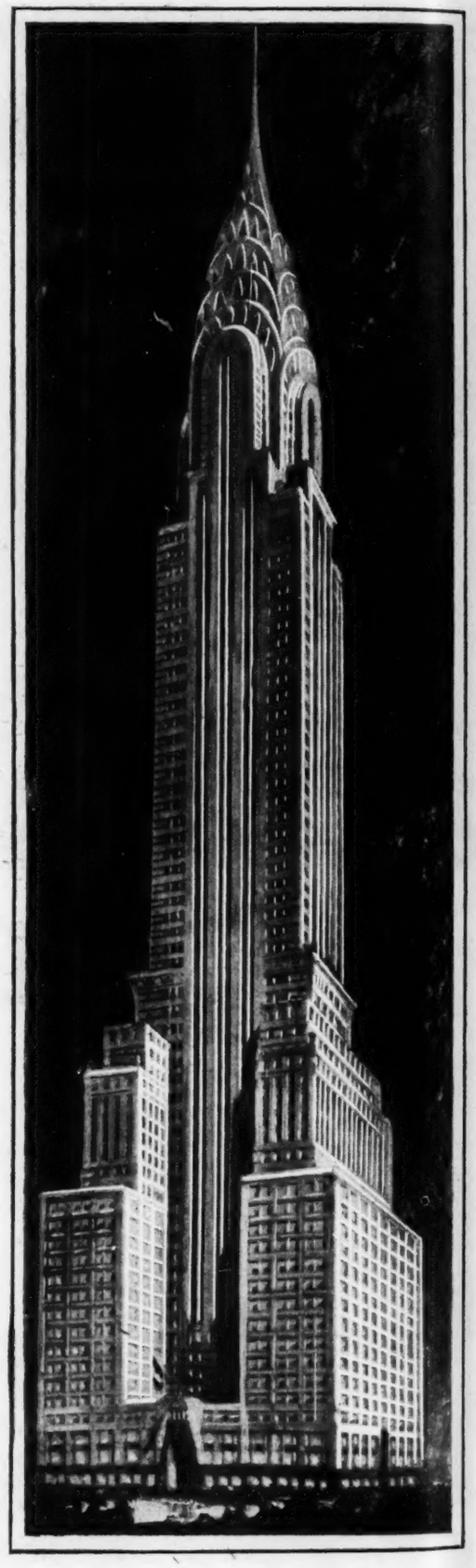
The set-back floors—the 24th, 27th and 31st—will also be furnished with Aluminum backed copings, Aluminum handrails, and handrail supports.

A large cast Aluminum flagpole holder symbolizing the winged cap on the Chrysler car will be placed above the main entrance on the fifth floor level, and from between its wings will arise a flagpole.

An architectural rendering of the Chrysler Building is shown at the right, and close up pictures of some of the Aluminum fabrications used in its construction will be found on the opposite page.

The Aluminum Alloy was created and fabricated by

ALUMINUM COMPANY OF AMERICA
2499G Oliver Bldg., Pittsburgh, Pa.
*Offices in 19 Principal American Cities*



ARCHITECTURAL ALUMINUM

ALCOA
ALUMINUM

THE fabrications shown on this page—each of which is specified in the construction of the Chrysler Building—are excellent examples, both of the wide range offered by Aluminum in matters of ornamentation and design and of its usefulness as a building material metal.

A substantial saving in permanent upkeep is one very definite advantage. No painting is required to protect these castings from the action of the elements . . . for the material is non-corrodible and will last as long as the building on which it is placed. The permanency of the design detail is also assured, since the indented surfaces will not be filled and gradually obscured by coats of paint applied at intervals as a protective measure.

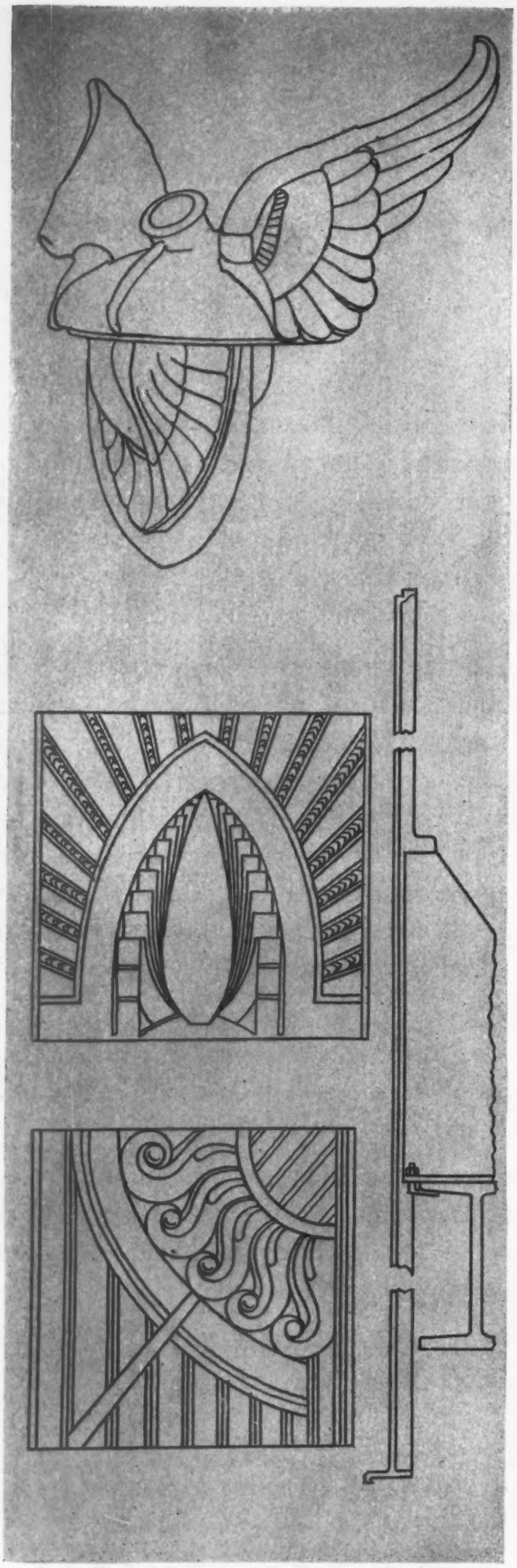
An added advantage is found in the fact that Aluminum will not develop rust, and hence will not streak and stain the adjacent surfaces.

A booklet, "Architectural Aluminum," describes and visualizes many interesting uses of Aluminum in the architectural field. May we send you a copy?

ALUMINUM COMPANY OF AMERICA
24996 Oliver Bldg., Pittsburgh, Pa.
*Offices in 19 Principal American Cities*

[ *Design drawings and further details of the flagpole holder and spandrels used on the Chrysler Building will be found on the following page.* ]

# ARCHITECTURAL ALUMINUM



*This flagpole holder and the spandrels are described on the two preceeding pages of this issue*

ALCOA

THE winged holder, containing a flagpole socket, shown at the upper left in simple outline detail is 7' 9" wide, 7' 9" long, and 4' 10" high from base of wing to tip. It is finished in the natural metal and highly polished.

The two decorative spandrels shown just beneath (with working detail) are approximately 4' 10" square with a wall thickness of ¼". They are sand cast, sand blasted and high lighted.

All of these fabrications (including the cast window sills) are made of No. 43 alloy, having a silicon content of 5%. The weight does not exceed .097 pounds per cubic inch and the average tensile strength is not less than 17,000 lbs. per square inch.

This material is very workable. It is light, durable, strong and non-corrodible, and its silvery gray color blends beautifully with almost every decorative scheme.

We will be glad to furnish further details concerning any of the fabrications described here.

ALUMINUM COMPANY OF AMERICA
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*Offices in 19 Principal American Cities*

# ARCHITECTURAL ALUMINUM

Blind Brook Club, Port Chester, N. Y. Frank A. Moore, Architect

# Comfort and Permanence with Rubber Tile Flooring

IN THE solid comfort and restful atmosphere reflected in the appointments of this well-designed club room, Rubber Tile Flooring is a contributing factor. Its rich color harmonizes with the general color treatment and a quiet and comfortable walking surface, due to its elasticity, has been provided—a feature which is especially desired in this type of room.

Rubber Tiling is made three-eighths inch thick, in square blocks of solid color. Its wearing quality is remarkable owing to its extraordinary thickness, firmness and weight, making virtually a permanent and ideal floor for public buildings, offices, clubs, churches, banks, hospitals, theatres and homes.

Furnished in twelve rich colors. The colors are permanent and will not wear off as the color extends through full thickness of tile. It will not stain, crack or discolor and affords a safe foothold without danger of slipping.

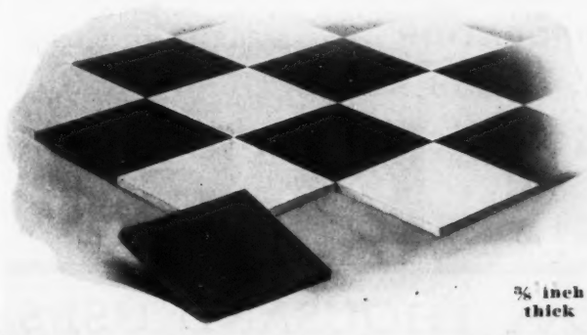
The cement used in the laying seals the joints and secures the tiles to the foundation by firmly gripping the corrugated under surface of the tile.

**NEW YORK BELTING & PACKING CO.**

*Original Manufacturers Interlocking Rubber Tiling*

**91-93 Chambers Street, New York**

Boston Philadelphia St. Louis
Chicago Pittsburgh San Francisco




# Rubber Tile Flooring

Corridor with paneling in Bakelite Laminated, which reproduces color and grain of the natural wood.

# A new material for paneling and trim particularly suitable for Hotel interiors

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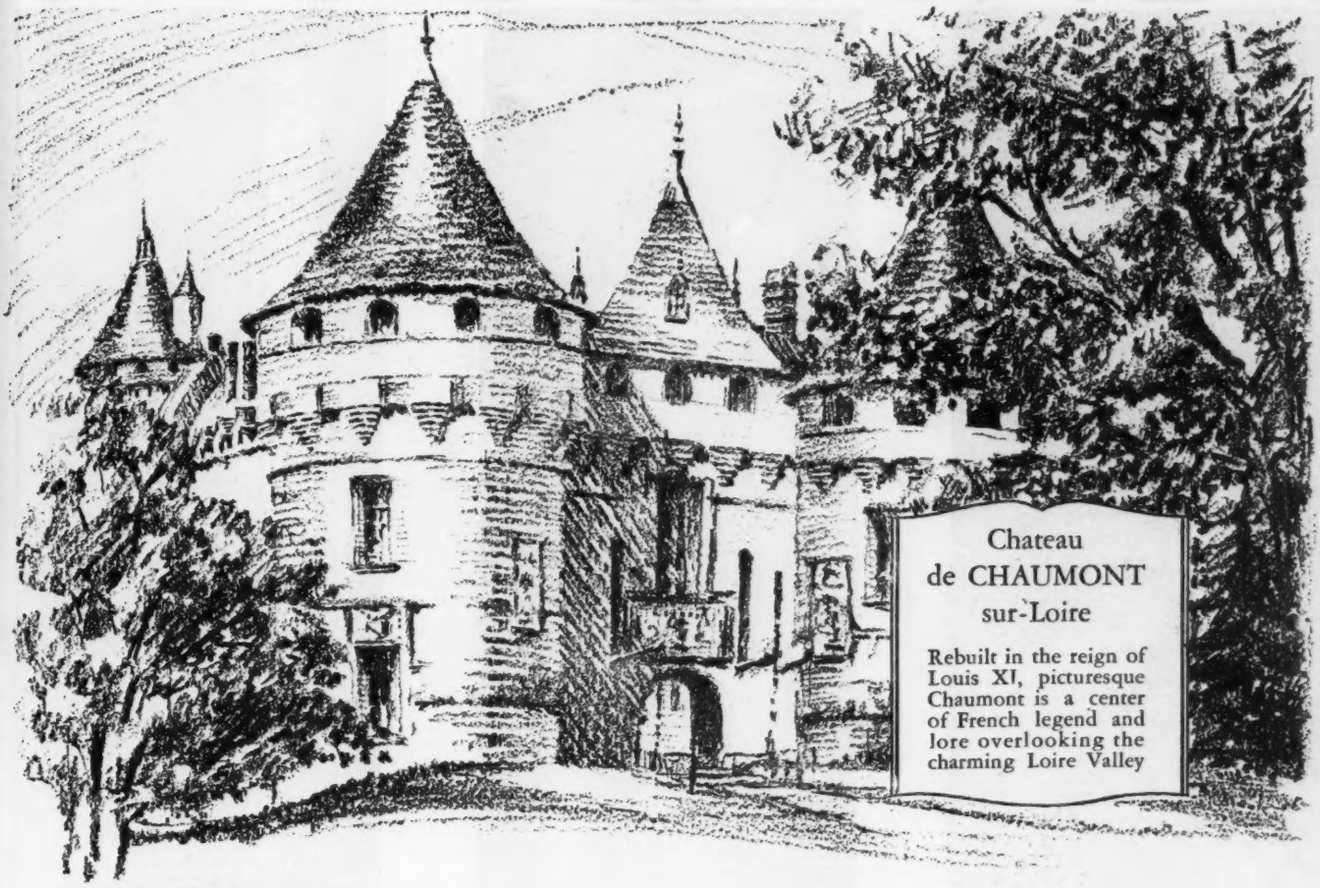

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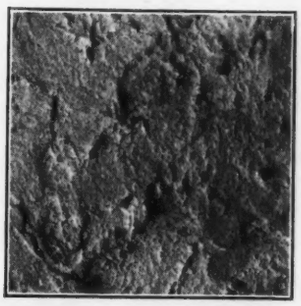

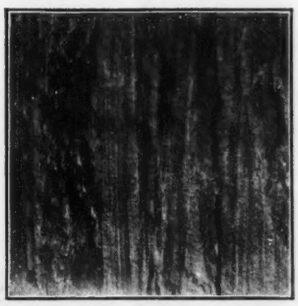

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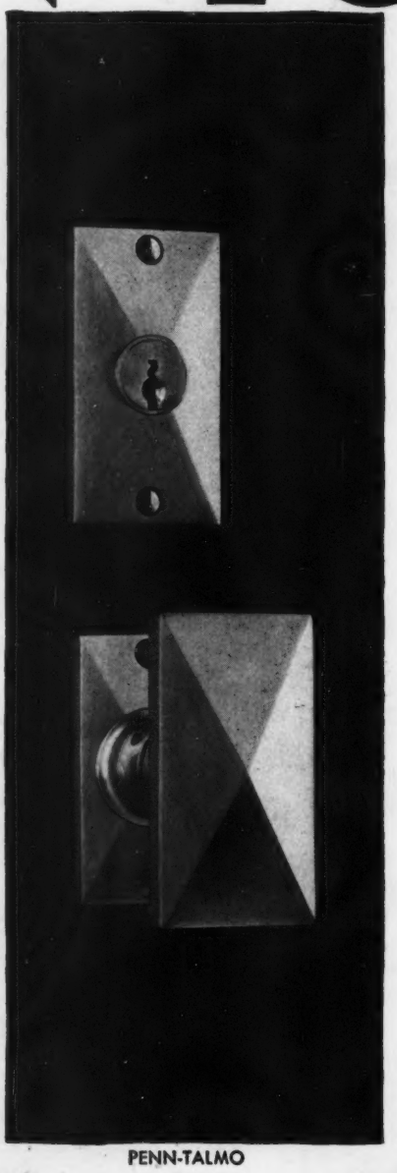

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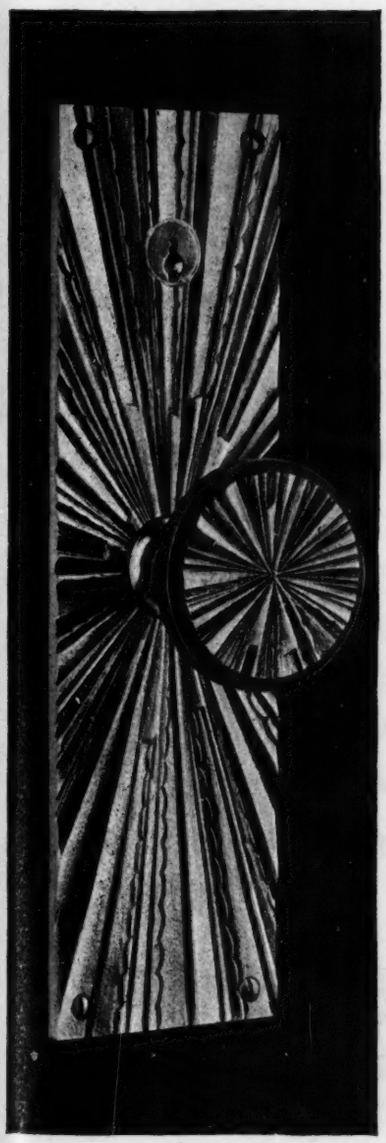

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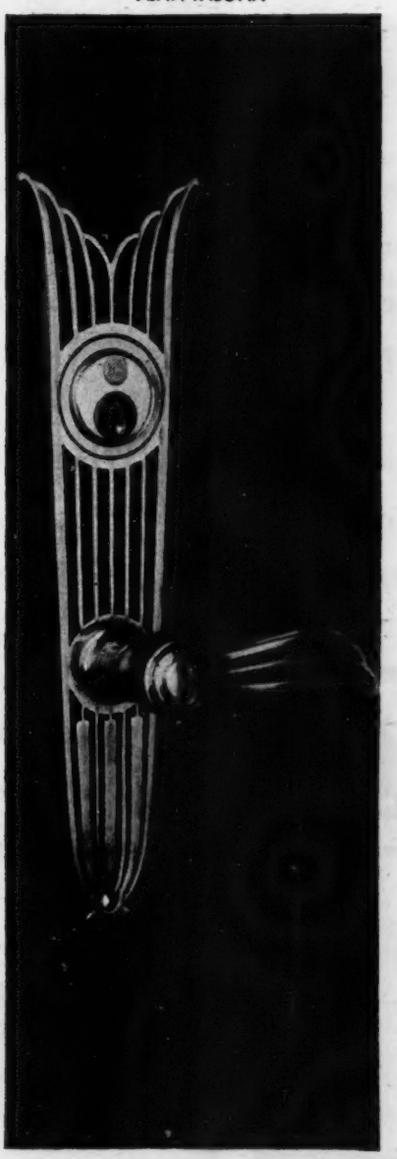

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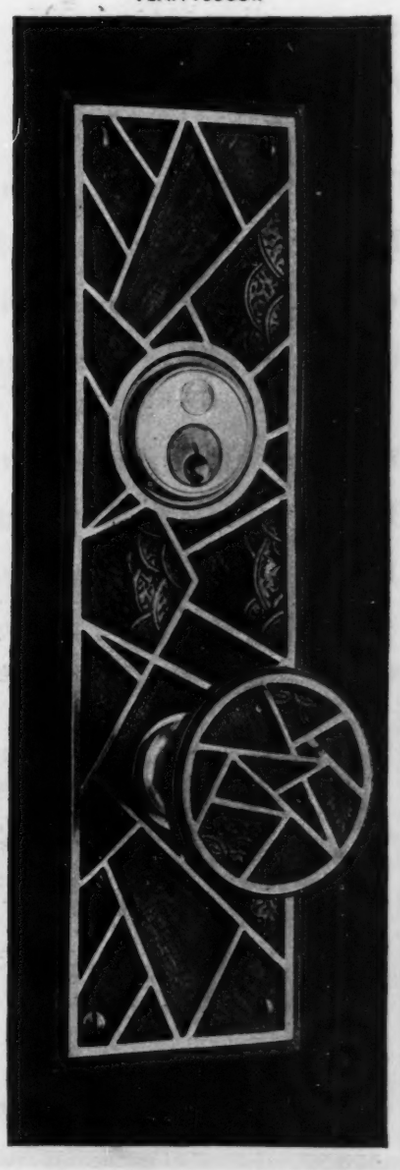

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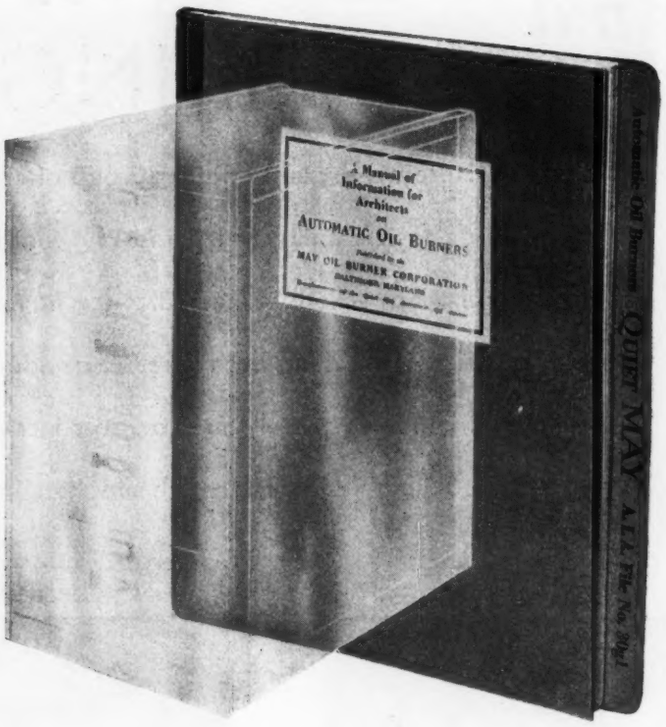


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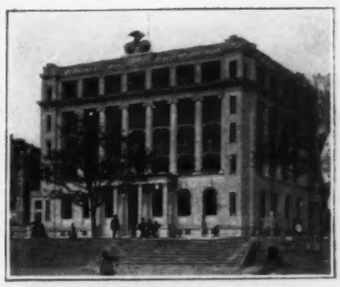

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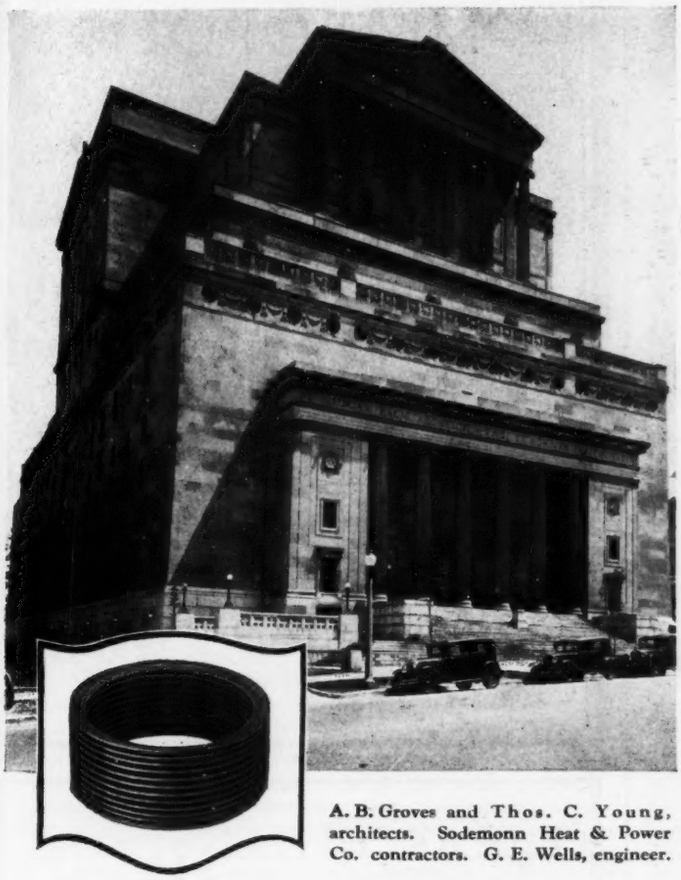

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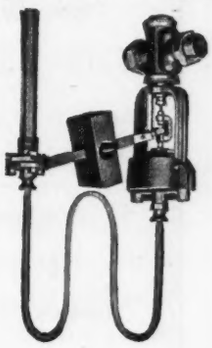

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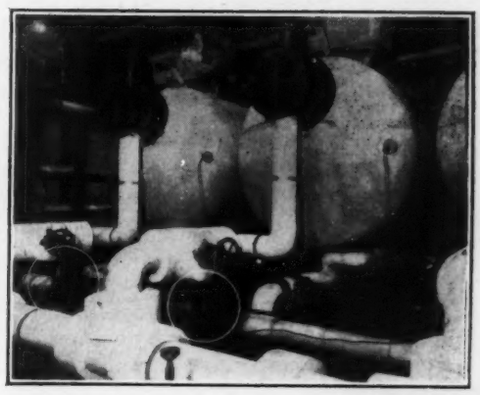

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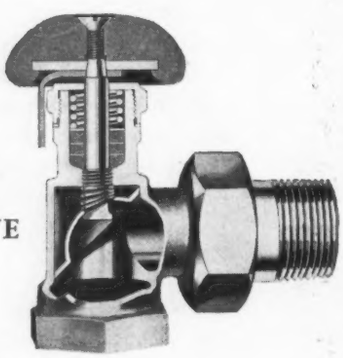

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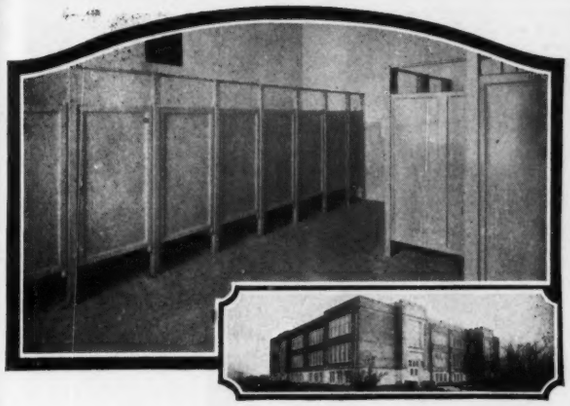

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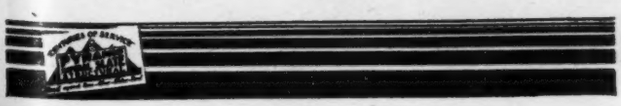

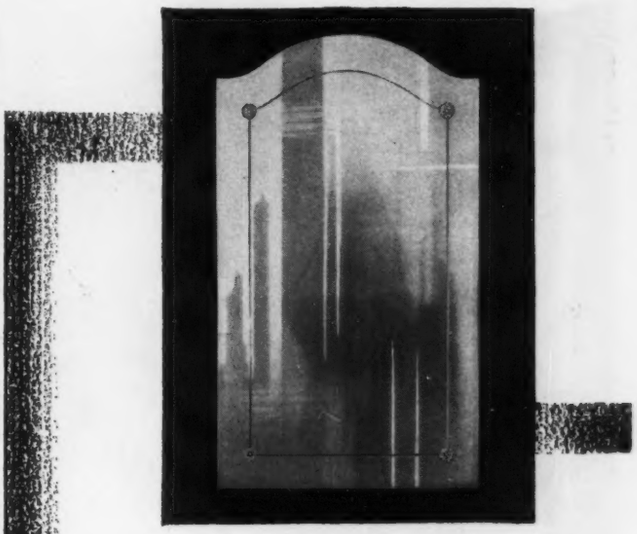

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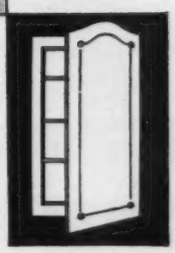

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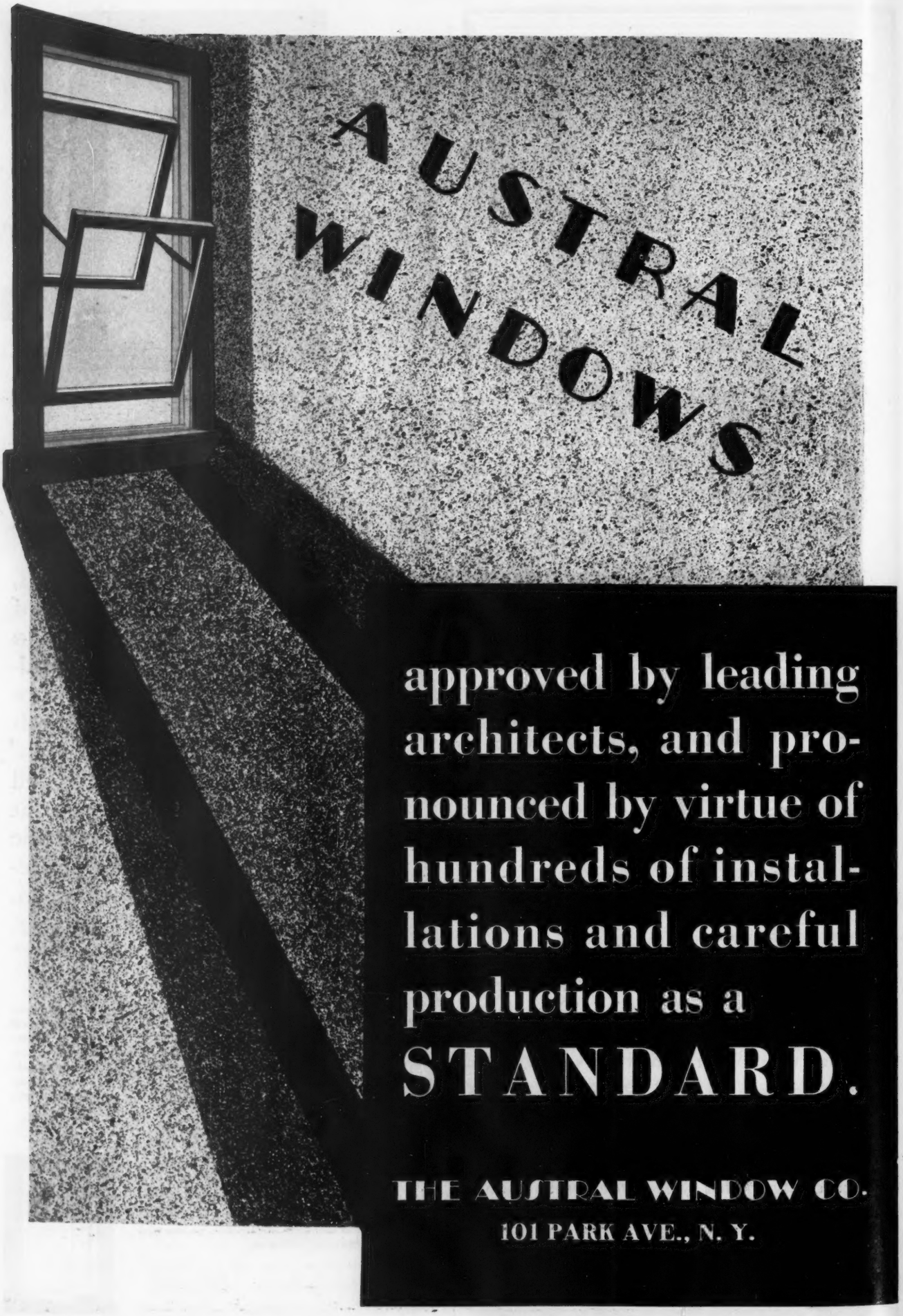
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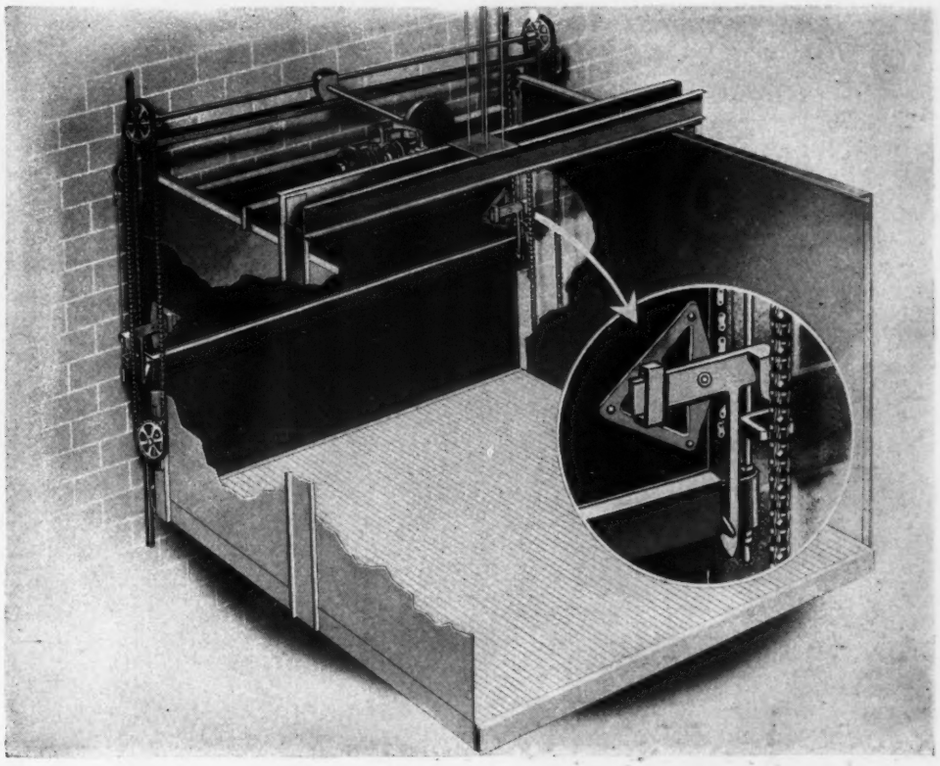

*A cutaway view of a typical Freight Elevator installation. The motor is mounted behind the center cross-member of the cage. The chains are operated by enclosed bevel-gear drive and short, straight-line shafts. Details of the latch-tripping and door-lifting mechanism are shown in the circle.*

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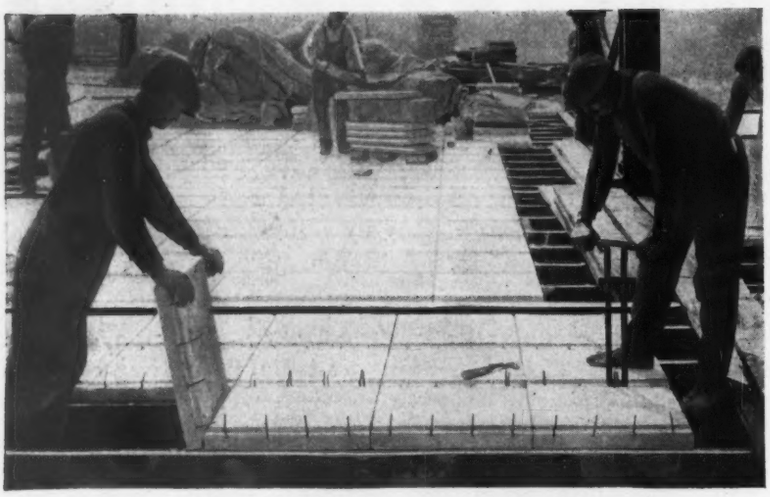

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Ceiling slabs are suspended from steel floor members by hangers, as shown in top photo to the left. Ceilings are grouted.

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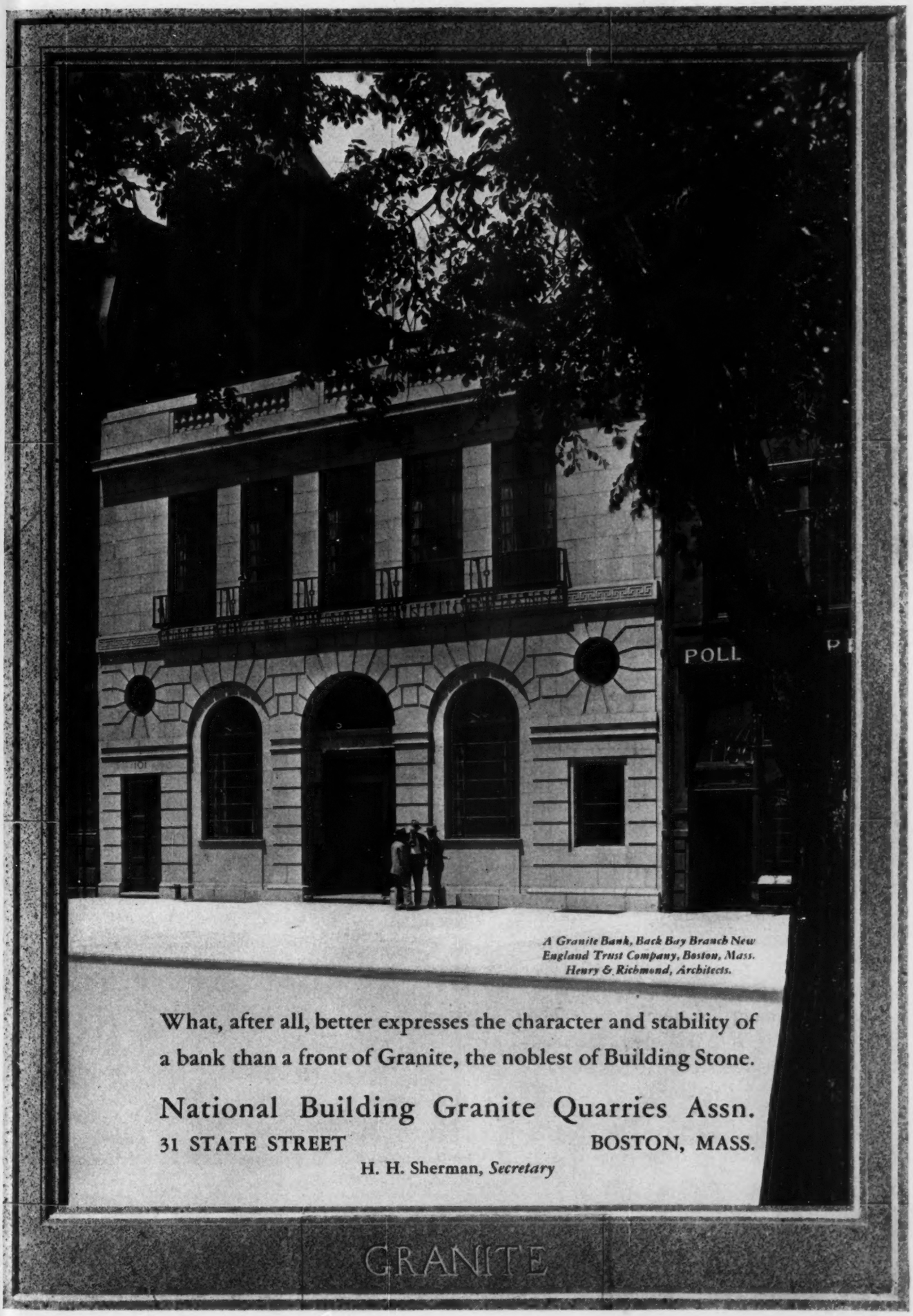


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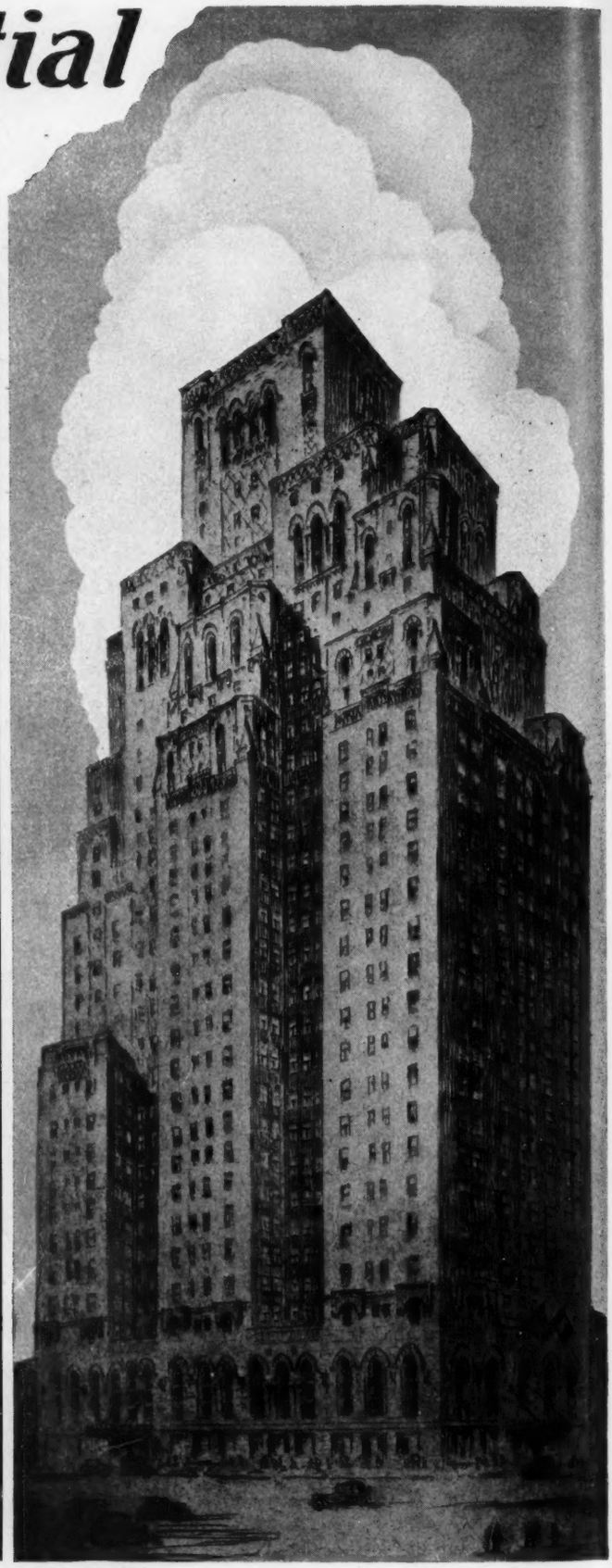

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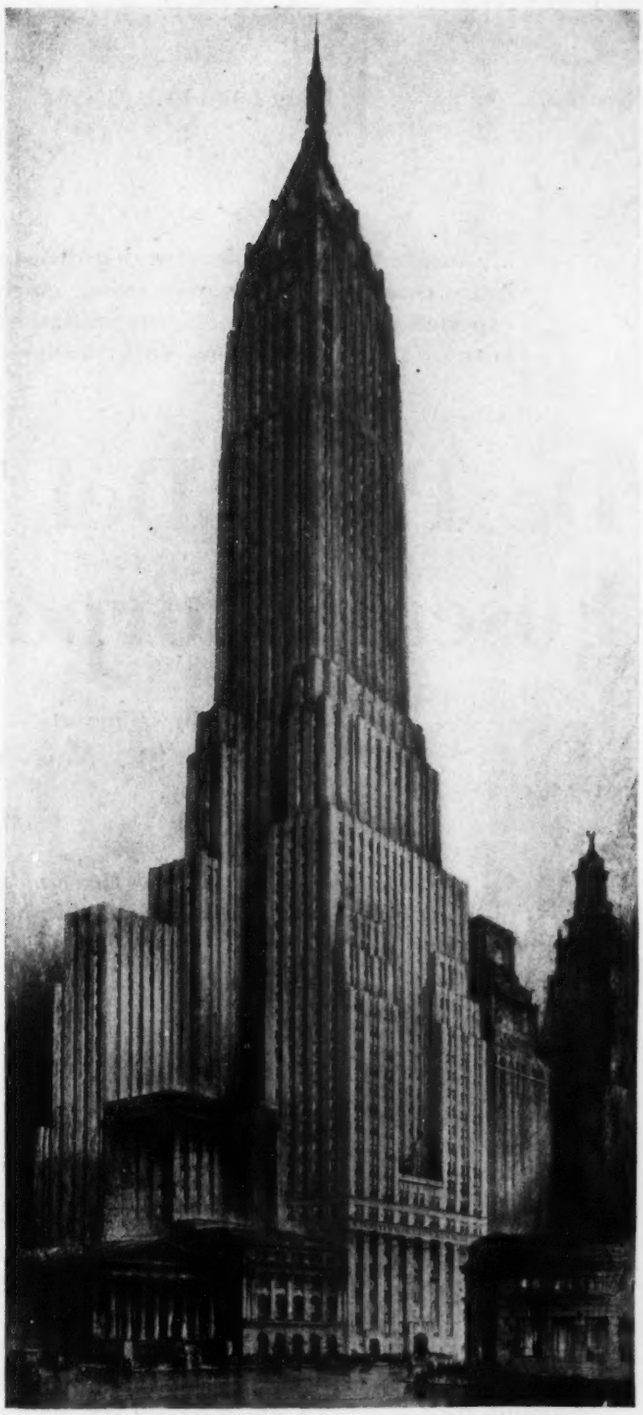
Each and every item on the specification list was subjected to the closest scrutiny. There could be no compromise with quality here—no substitute for proved dependability—endurance was foremost in consideration. And when it came to the piping—one of the most important items in a building of this type—NATIONAL was specified for the major pipe tonnage.

**NATIONAL TUBE COMPANY · Pittsburgh, Pa.**
**Subsidiary of United States Steel Corporation**

# NATIONAL PIPE

# FEDERAL SEABOARD TERRA COTTA



**ONE of the tallest buildings in America erected in record time. Sixty-seven stories—over 920 feet high. Has area of over 1,000,000 square feet. Terra cotta by Federal Seaboard Terra Cotta Corporation.**

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**announce to the architectural profession that they have combined their resources, equipment and experience by means of a consolidation under the laws of the State of New York, under the name of**

# De Paoli Del Turco Foscato Corporation

**With Main Office at**
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**This consolidation unites three of the oldest and foremost firms specializing in the installation of**

**TERRAZZO**
Monolithic and precast

**TILE**
of every description

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of marble and Venetian smalti

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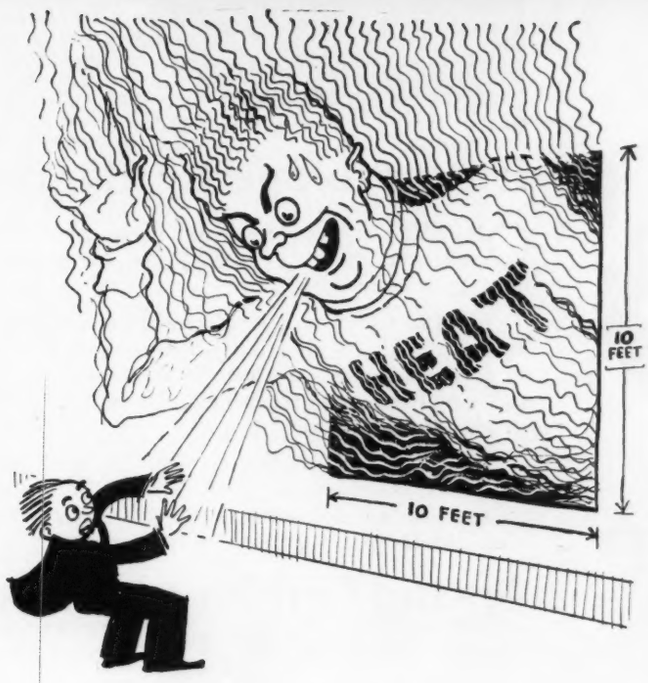
**With renewed assurances of faithful service and high standards of workmanship, the Corporation will maintain the same policies and spirit of hearty cooperation with architects that contributed to the growth and success of the individual houses in the past. The plants now in existence in New York, N. Y., Harrison, N. J., and Long Island City, N. Y., will be maintained as before.**

# HORN-WATER-PROOFINGS




## It's the Same as a Heat Leak 100 Square Feet in Size

YOU have heard of cracks around windows "big enough to throw a cat through."
But that isn't what one of your leading New York architects had in mind when he made that ten feet square statement.

What he said was; that by caulking a ten story apartment house with Vulcatex, a saving of ten times its cost was effected in a single year. Saved in the heat kept in the building.

The opening usually found in uncaulked window frames alone, in a building of this size is equivalent to an opening 10 feet square. A heat leak equal to a hole 100 square feet.

To which graphic statement, we might add that no one knows how long Vulcatex will last, because so far, no one is alive who has outlasted it.
Of a certainty, in buildings where it has been for two score and more of years, it is just as leak tight, just as elastic as the day it was put there.

You may not believe what we claim for Vulcatex. But you can't quite deny Time's own tale telling. All the window frames and terra cotta joints in both the Chicago Wrigley Buildings are Vulcatex caulked.

### Vulcatex Costs

**Admittedly, Vulcatex costs more to buy than caulking materials that cost less, and that do less. You would expect that. But Vulcatex costs less to use.**

**Cheap materials may be secured as low as 50 cents a window, as against Vulcatex possible dollar. But one lasts little better than a year, costing 50 cents a window each year. Vulcatex is installed to last 20, and so costs but 5 cents a year per window.**

**Furthermore, there's every reason to believe Vulcatex will outlast our record, as it shows no sign of deterioration after 20 years. There seems every reason to believe it will last 30 years and more. There's no other caulking material made that can even approach the 20 year record.**

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Swartwout Surveys do away with costly delays and burdensome detail. Your preliminary building sketches and data, when sent to Swartwout, produce a complete ventilation layout and recommendations without the slightest obligation. Ask for a Swartwout Survey on that new project.

THE SWARTWOUT COMPANY
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MOST AIR PER MINUTE PER DOLLAR INVESTED

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OF exceptional interest to architects because it pioneered the use of air rights in the West, the Chicago Daily News Building is an example of all that is modern and efficient in building construction.

It is a matter of pride to us that approximately three hundred swing doors, as well as dumbwaiters and telephone booths are of United Hollow Metal construction.

The frequency with which United products and United engineering service are associated with projects of this calibre speaks more eloquently than volumes of words of the outstanding excellence of both. Nothing demonstrates more clearly that there is no substitute for experience and no short cut to true craftsmanship.

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*Contractors:*
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*The inclusion of*

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equipment in the electrical specifications always reflects the good judgment of the architect. ROTH dependability and long trouble-free life is known the world over, and the most prominent architects are specifying ROTH equipment in all places where super-service and dependability are required.

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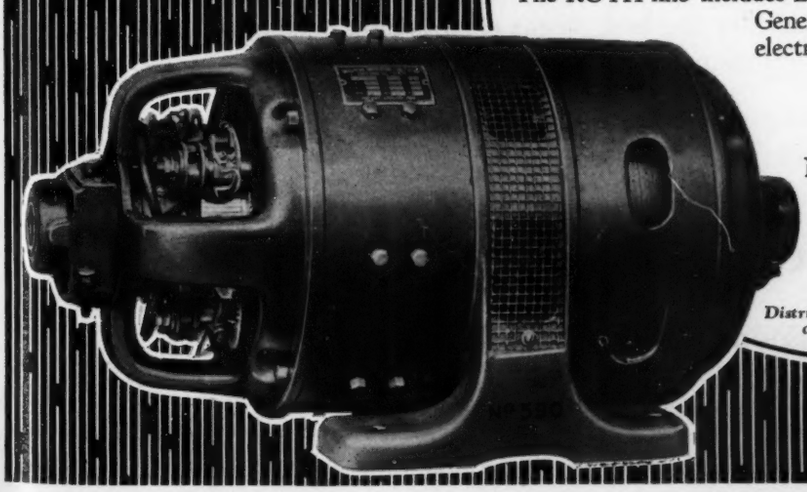

*Let our Engineers give you complete information.*

**ROTH BROTHERS & CO.**
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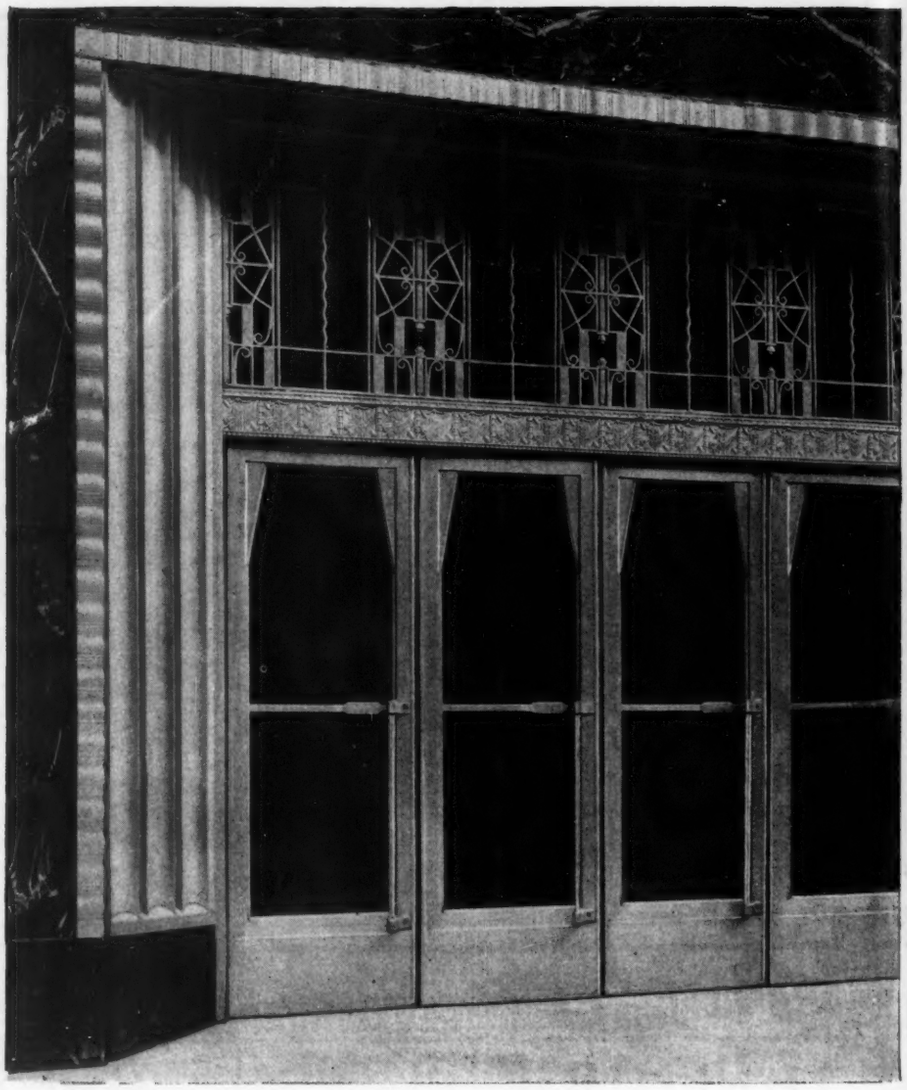
# Ferrocraft Cast Grilles

**for *modern* ventilating needs**



THE Tuttle & Bailey installation in Frederick Loeser & Co.'s new Brooklyn store shows the ready adaptability of Ferrocraft cast Grilles to every heating and ventilating need. The architects, Starret and Van Vleck, faced with the problem of harmonizing the grille-work with the appointments of the store, conceived several modern designs. The execution of these designs was entrusted to Tuttle & Bailey. For architects know that Ferrocraft cast Grilles, in iron, bronze, brass, and aluminum, offer the best means of obtaining perfect reproduction of their creations.

*Our new catalog, "Grilles", shows many designs*

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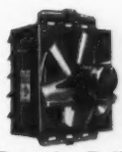
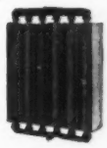
. . . supersedes all previous radiators, radiator cabinets or enclosures. Occupies no room space and makes possible any desired decorative scheme or furniture arrangement. Indestructible in service.

**THE HERMAN NELSON hiJet HEATER**



It operates at steam pressures from 1 to 150 lbs., and offers the better and more economical way of diffusing heat in Factories, Railroad Shops, Roundhouses, Mills, Warehouses, Garages, Gymnasiums and Industrial Buildings.

**Herman Nelson Radiator Sections**
***for Blast Heating and Cooling***



Indestructible, operating at any steam pressure from 1 to 150 lbs., non-corrosive and leak-proof.

May be arranged in banks to solve any special problem of heating or cooling.

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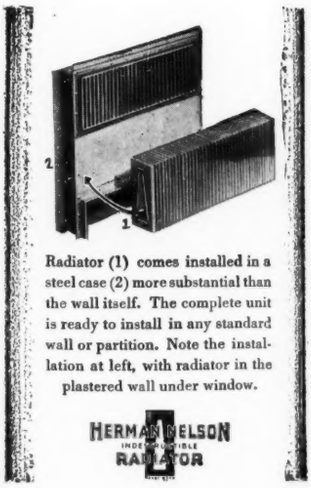

Radiator (1) comes installed in a steel case (2) more substantial than the wall itself. The complete unit is ready to install in any standard wall or partition. Note the installation at left, with radiator in the plastered wall under window.

HERMAN NELSON INDESTRUCTIBLE RADIATOR

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## *the radiators that heat this room*

TOTALLY new effects in interior planning of homes, offices and monumental buildings are made possible — long-sought ideals of the architect are realized—by a heating method that discards the space-wasting radiator forever.

The Herman Nelson Invisible Radiator fits *inside* the wall or partition. Requires no floor space. Places no limits on color harmony or furniture arrangement. Yet it brings all the advantages of finest radiator heat.

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**HERMAN NELSON**
***Invisible***
**RADIATOR**
*For Steam, Hot Water, Vapor or Vacuum Heating*

# ELEVATOR ENTRANCES by DAHLSTROM

TO THE ARCHITECT who himself is striving for perfection to the minutest detail, Dahlstrom Elevator Entrances are a continuing source of interest. Founders of the Hollow Metal industry, Dahlstrom has ever since maintained so high a standard of quality, so skilled a staff of craftsmen, that for design and execution, Dahlstrom equipment has never been equalled. May we send you color plates of recent Dahlstrom installations?

## DAHLSTROM METALLIC DOOR COMPANY

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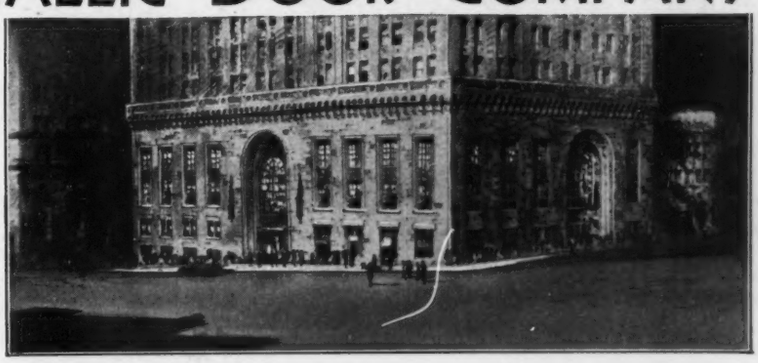
**(ESTABLISHED 1904)**

**NEW YORK, CHICAGO, LOS ANGELES, DETROIT, DALLAS**



In the Baltimore Trust Building, Baltimore, Maryland, the Elevator Entrances are by Dahlstrom. Architects: Taylor & Fisher, Baltimore, Md. Assoc. Architects: Smith & May, Baltimore, Md. Contractors: J. Henry Miller & Son, Baltimore, Md.

*Residence:*
Harrison, N. Y.

Julius Gregory,
*Architect*

A slate roof is the logical choice for the half-timbered house in the English style. To secure perfect harmony, however, the roof must be especially designed. Where Tudor Stone is specified our Architects' Service Department co-operates with the building architect in this important detail.

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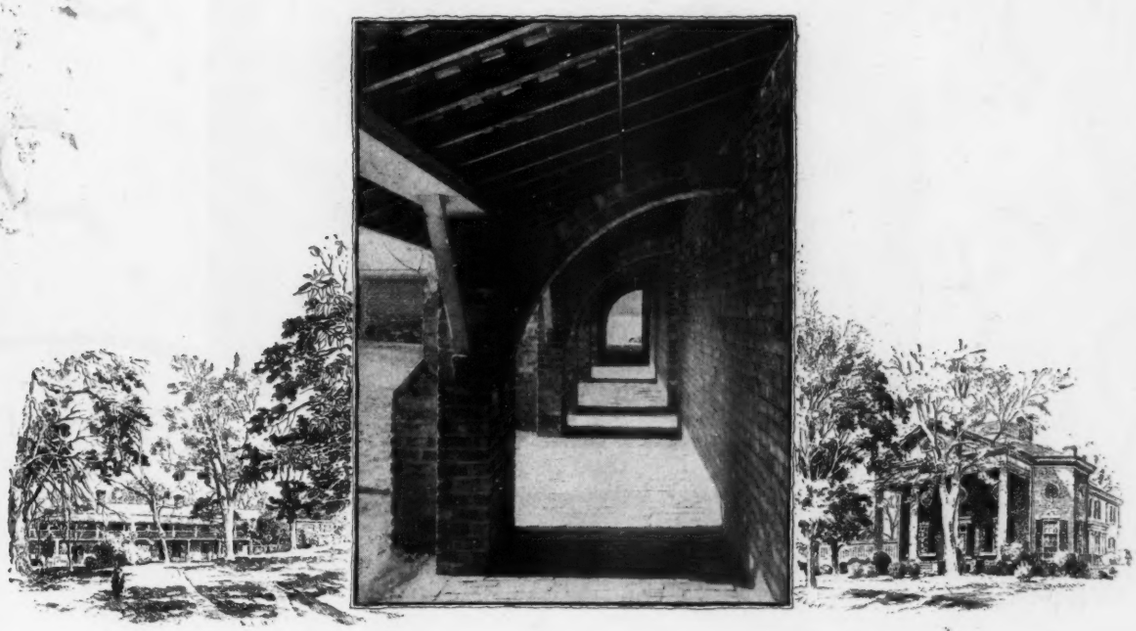
Architects' Service Department: 101 Park Avenue, New York City

CHICAGO DETROIT PHILADELPHIA BOSTON



# Lovely Old Farmington

## One of Virginia's Rarest Gems

Being Brick Tale Telling
Number XXVII

YOU say, Farmington? Farmington? I don't seem to have heard of it among Virginia's notable early-time homes. No that's so. It's not one of the James River Romantic School, so to speak. It belongs rather to the Monticello School, as like it, it is located on a commanding hill top, and looks away to a long sweep of the Blue Ridge Mountains. Furthermore, it is located but a few miles out of Charlottesville, and Jefferson had a hand in designing the "Big House" portion.

It dates back to the pre-Revolutionary days. Up to a short time ago, it had been owned by a continuous line of the Wood family.

Tradition has it, that after several futile attempts at securing a satisfactory front, Jefferson was appealed to, and introduced his characteristic octagon treatment, with its circular windows.

One of the interesting features of the guest quarters is their galleried treatment, reminiscent of, "down New Orleans way". The interesting brick buttressing, is a feature of the passage, leading from the guest galleries to the walled garden and the stables.

In the recent additions to the Big House, our Jefferson size, mould-made brick were used. When there's a bit more time-toning of the rest of the materials, it will take close scrutiny to tell which are the old, and which the new. For such is the yester-year effect, the bricks we are making way down here in old Virginy, so unfailingly give.

OLD VIRGINIA BRICK

Old Virginia Brick Company
Salem, Virginia

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## HIGH PRICED?...no, sir!
## FAST SHIPMENT?...48 hours
## WELL MADE?...Sturtevant!

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THE PRICE IS WAY DOWN

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"More Heat Less Steam"

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They will withstand constant exposure to severest weather and be absolutely free of maintenance cost, because Alberene Stone (the superior grade of soapstone) is practically age-proof, as evidenced by the soapstone quoins, water-table, chimney-facing, and other trim placed on Independence Hall, Philadelphia, in 1736, and still there unrestored.

The use of Alberene Stone removes forever the expense of painting or any sort of re-finishing because it requires neither protection nor beautification.

We will gladly submit facts regarding color, varying textures, fabrication, design possibilities and erection economies of this versatile natural stone. Alberene Stone Company, 153 West 23rd Street, New York. Quarries and Mills at Schuyler, Virginia.

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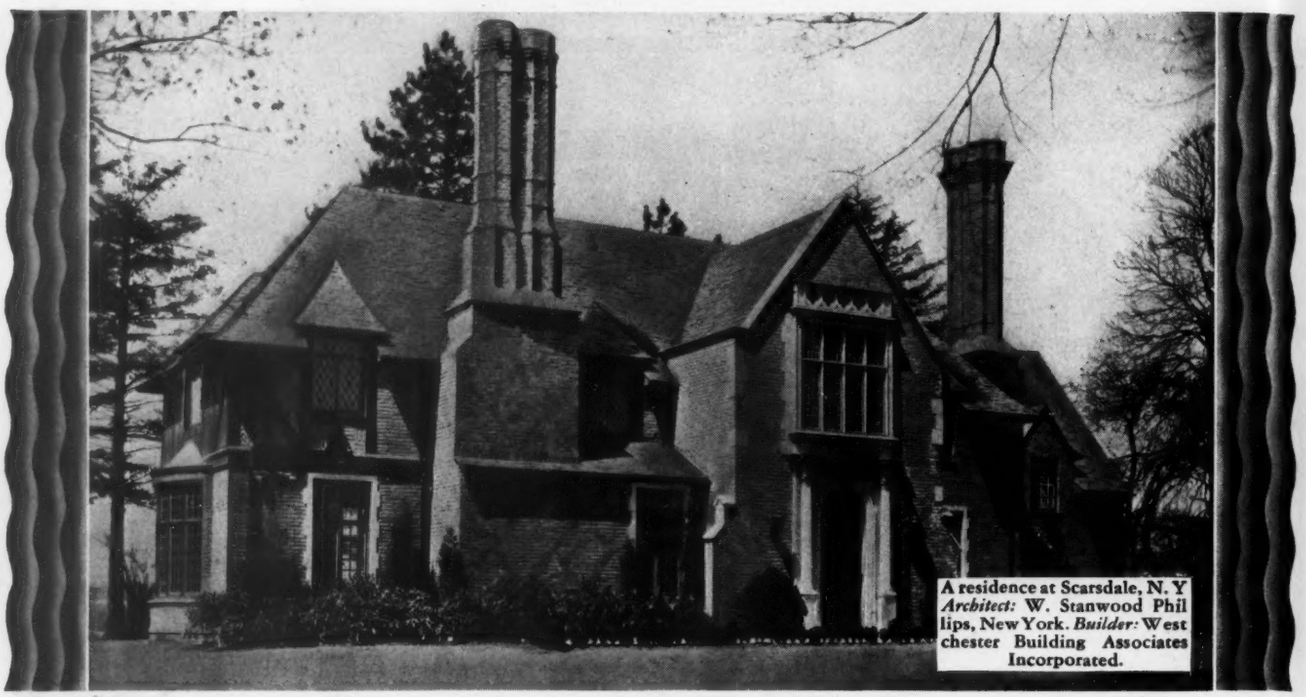
ALBERENE TRADE BEST MARK STONE



A residence at Scarsdale, N. Y *Architect:* W. Stanwood Phillips, New York. *Builder:* Westchester Building Associates Incorporated.

# *Through the office of*

# W. STANWOOD PHILLIPS

## *Fenestra Casements*

## were used in this beautiful Scarsdale house

With its attractive bays, dormers and oriels, its stately chimneys, its rugged roof and its mottled brick walls, this house is a distinguished expression of English motifs. And like the prototypes of an earlier day, much of its beauty is due to the casement-type windows with their small sparkling panes.

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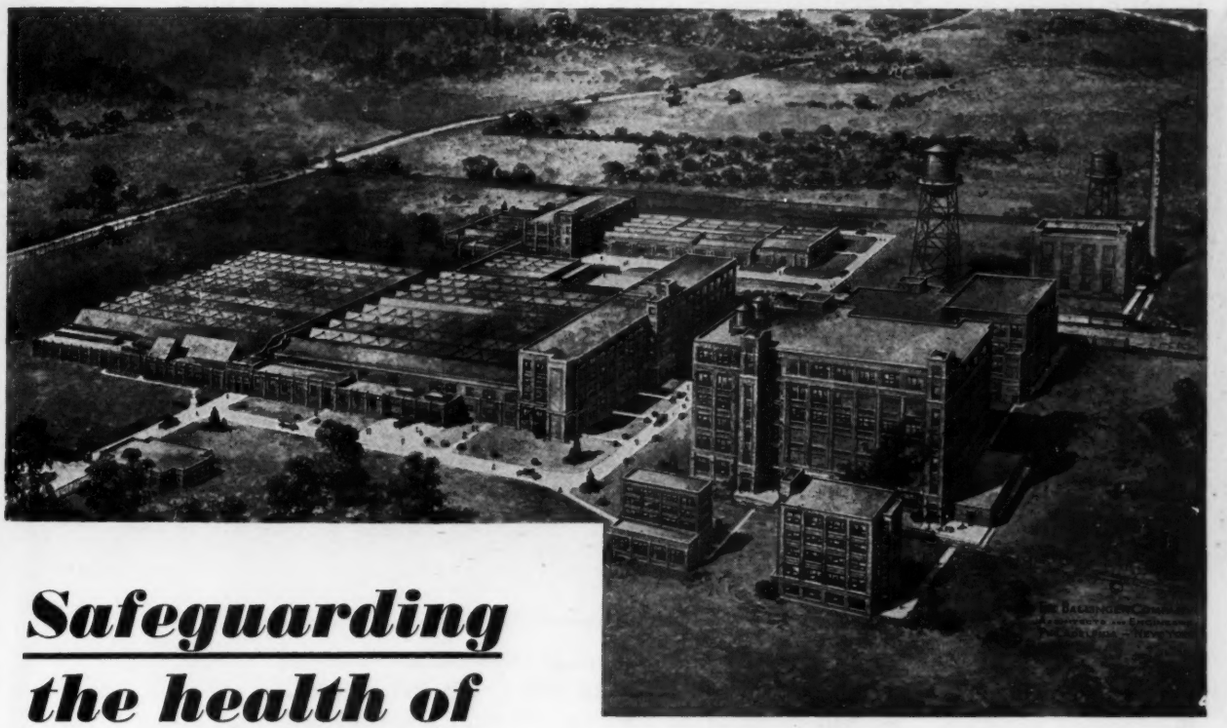
Convenient Warehouse Stocks

# *Fenestra* SCREEN CASEMENTS

THE SPECIFICATION FOR SANITATION



# Safeguarding the health of the Worker

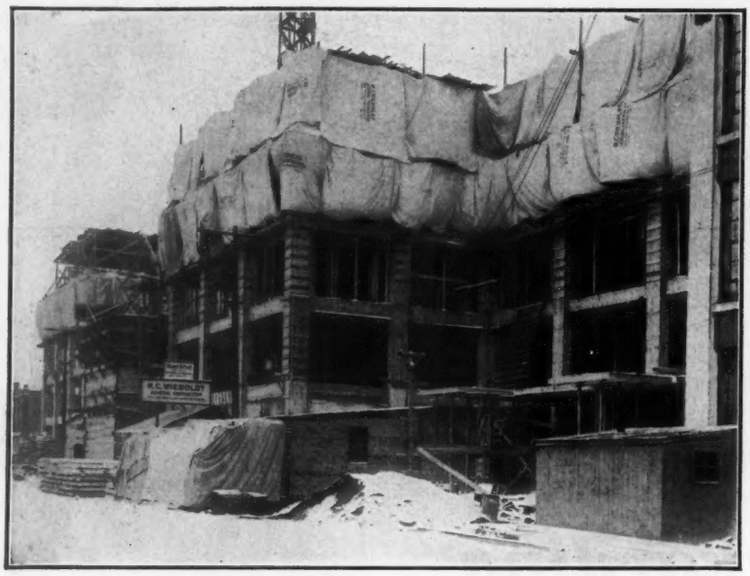
The Viscose Co., (new plant) Meadville, Pa. (*Architects and Engineers,* The Ballinger Co., Philadelphia, Pa.; *General Contractor,* J. P. Pettyjohn & Co., Lynchburg, Va.; *Plumbing Contractors,* W. Muench, Philadelphia, Pa.)

INDUSTRY today is highly specialized. The mass production methods so popular and so necessary to industrial growth would not be possible without the improved working conditions that are a part of every successful industrial institution. ▼ Architects have had a prominent part in promoting industrial welfare, specifying as they do the materials that assure sanitation, convenience and comfort. ▼ A vital part it is that Halsey Taylor fountains play, for they offer workers and employers alike the maximum of hygienic safety with a minimum of trouble and annoyance. ▼ That is why leading architects appreciate "the specification for sanitation"—Halsey Taylor Drinking Fountains and Coolers.

*The Halsey W. Taylor Company, Warren, O.*
(*Largest Manufacturers of Drinking Fountains Exclusively*)

**HALSEY TAYLOR**
*Drinking Fountains*

*Shown above is No. 520-600, specified for the building illustrated. The fountain is a pedestal type, with cast-iron base and a cover that can be raised to make connections without disturbing floor or concrete and then bolted to foundation. Receptor is of vitreous china with* automatic stream control *and* two-stream projector*—the two distinguishing features that make these fountains safe, convenient and* PRACTICAL! *Complete range of modern styles and designs to meet every need!*



THERE is nothing mysterious about successful cold weather construction with PRESTOLITH VELO CEMENT. Hardening and curing of concrete are chemical processes and normal temperatures are vital. Time can be saved, long curing delays eliminated and dependable 24-hour concrete secured—but the care necessary to obtain any good concrete in cold weather must be observed, namely:

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4. Concrete when placed in forms should have a temperature of 70° to 140° F., and not allowed to drop below 60° for the first 24 hours.
5. A minimum amount of water should be used.

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Manufacturers of "Red Ring" Portland Cement and "Prestolith" brand of Velo Cement. Producers of sand, gravel and Bethany Falls crushed stone.

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958 Ellicott Square Bldg.
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111 West Monroe Street
CINCINNATI, OHIO
611 Dixie Terminal Bldg.
CLEVELAND,
218 Hunkin-Conkey Bldg.
COLUMBUS,
751 South Cassingham Rd.
DETROIT,
2457 First National Bldg.
KANSAS CITY, MO.
2035 East 19th Street
MINNEAPOLIS,
434 Builders Exchange
NEWARK, N. J.
24 Commerce Street
NEW YORK CITY,
50 Church Street
PHILADELPHIA,
1700 Walnut Street
PITTSBURGH,
207 Fulton Building
SCRANTON, PENNA.
Cedar Avenue
ST. LOUIS
1514 Chemical Building
TORONTO,
2258a Bloor Street, West
TRENTON,
339 Broad St. Bank Bldg.
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*Arch Lath permits easy, quick application because of great rigidity*

## *When the walls are of*

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# COP-R-LOY

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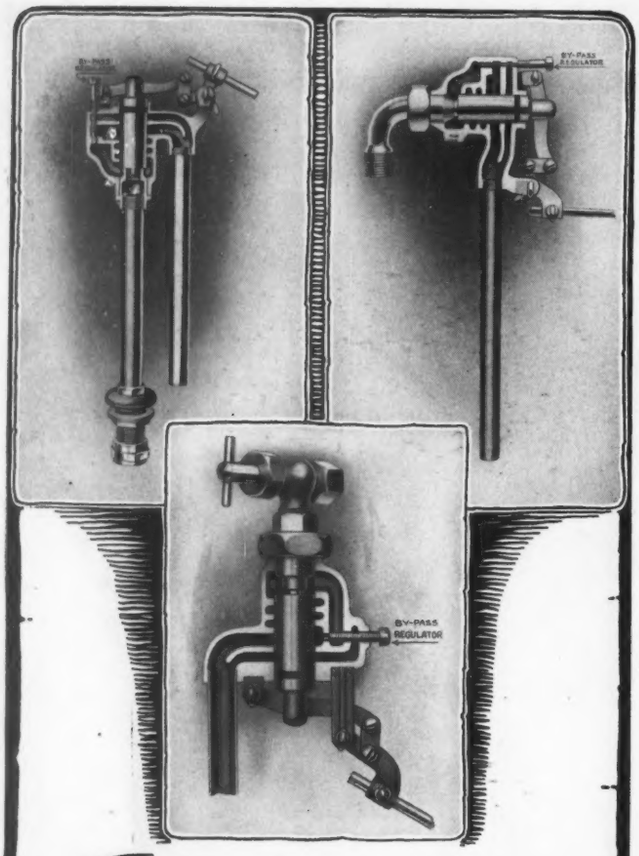


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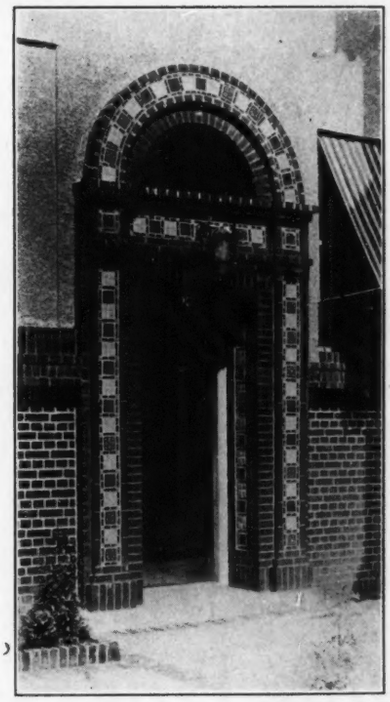

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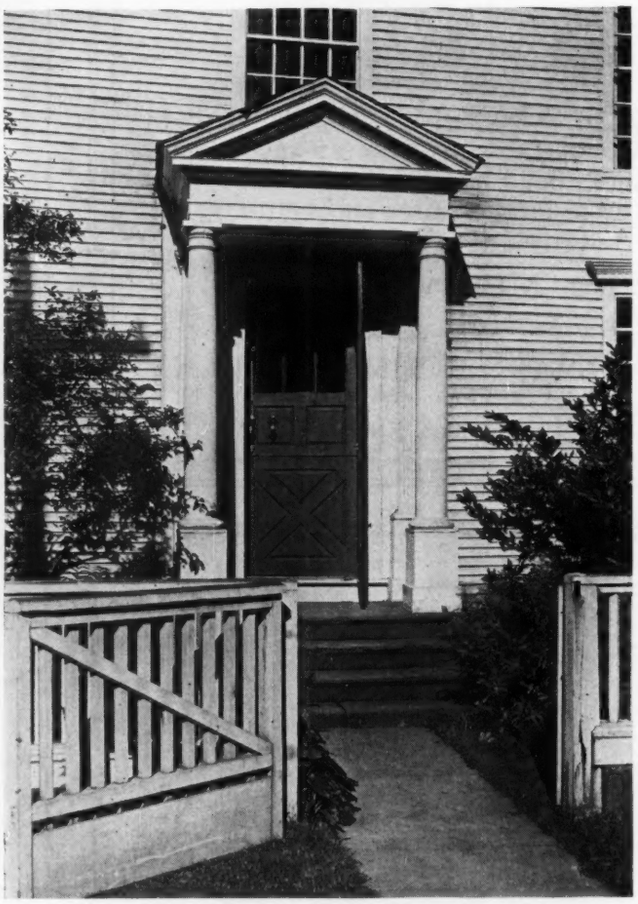

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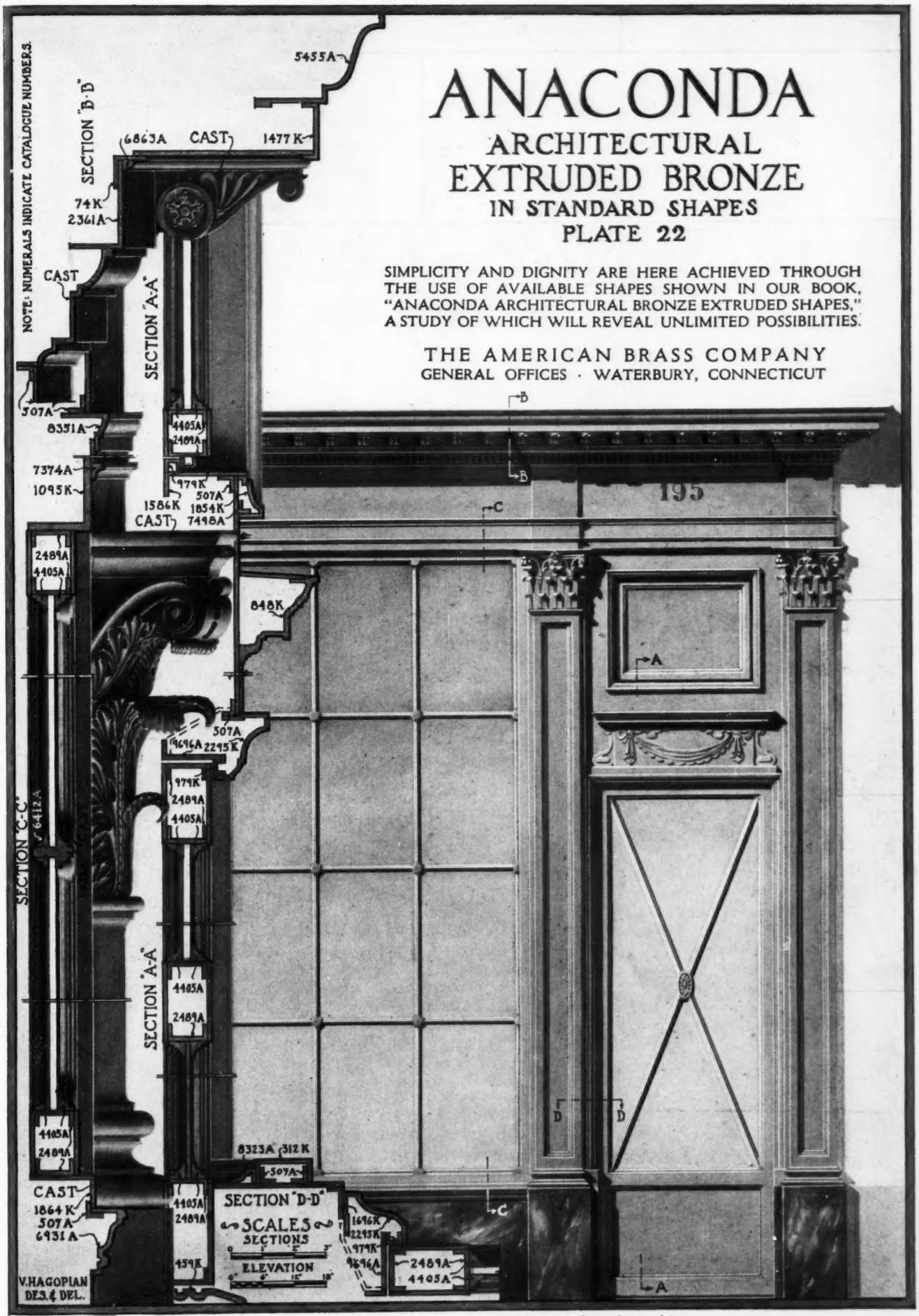


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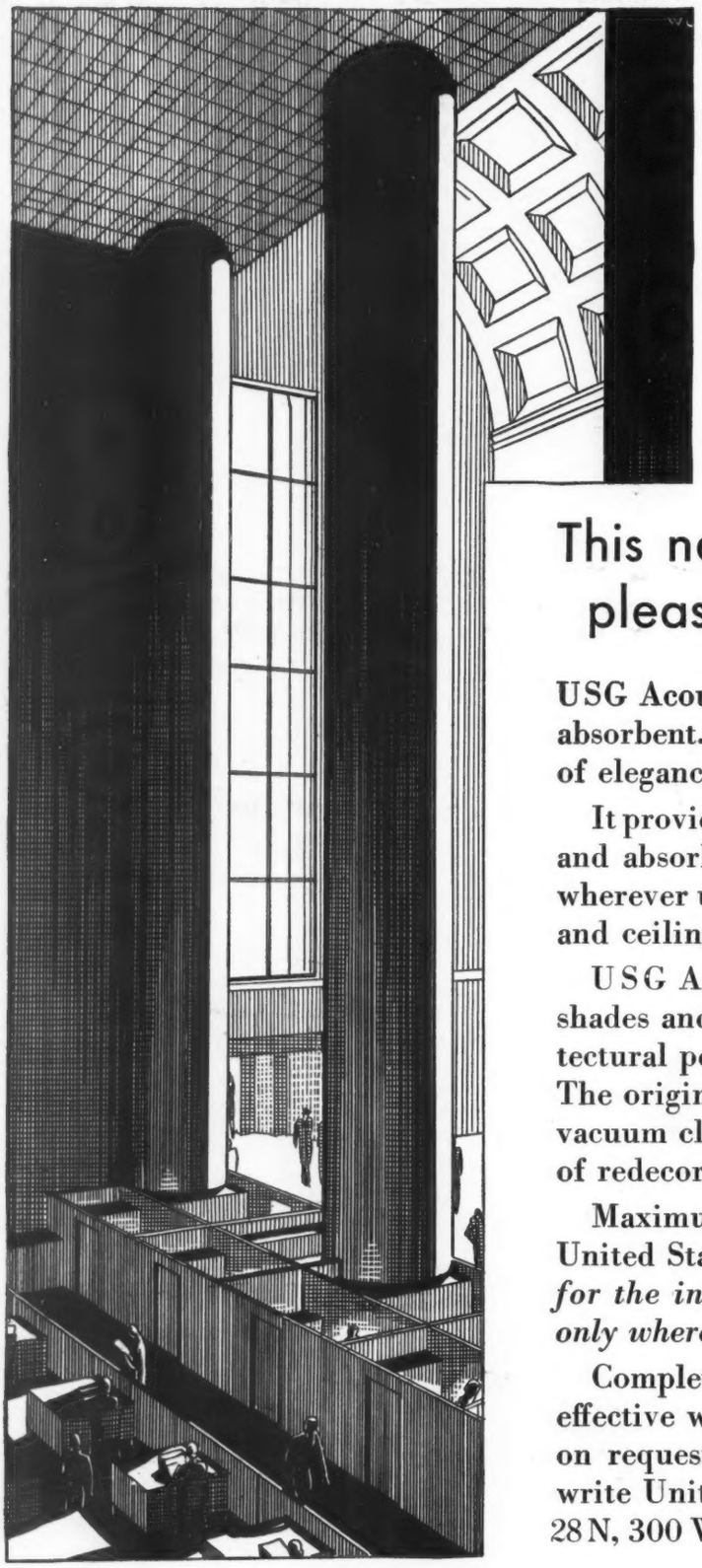

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*from*

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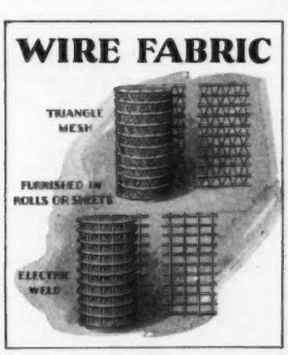
MERRY CHRISTMAS AND A HAPPY, PROSPEROUS NINETEEN THIRTY

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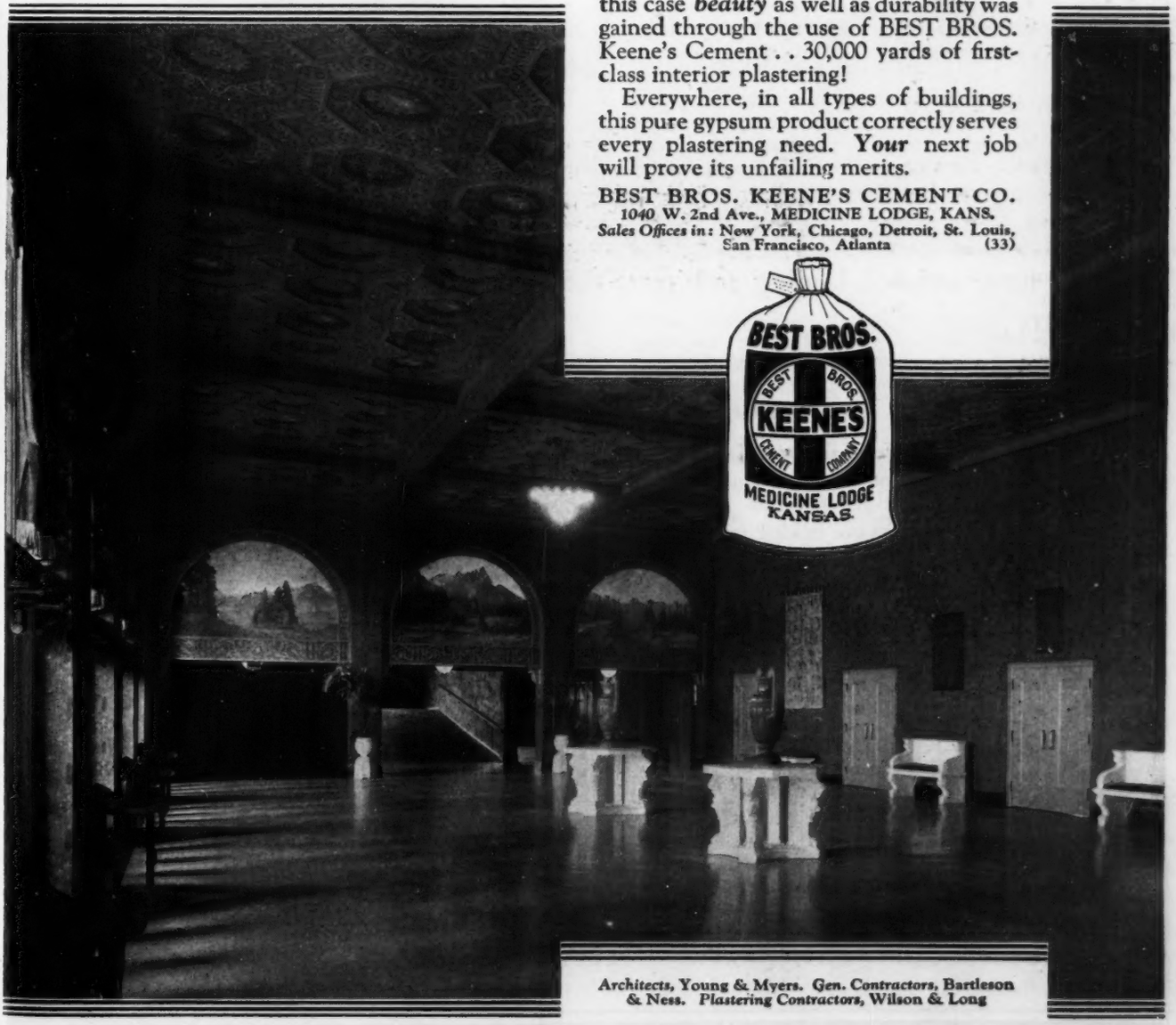


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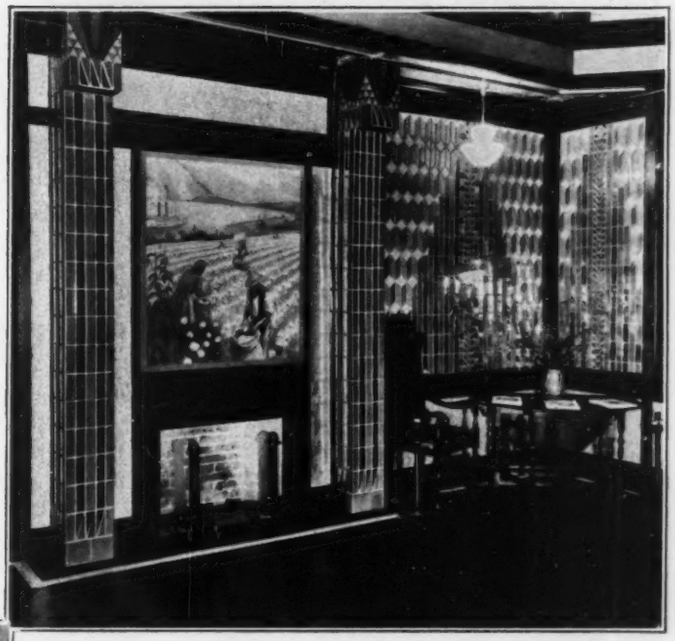

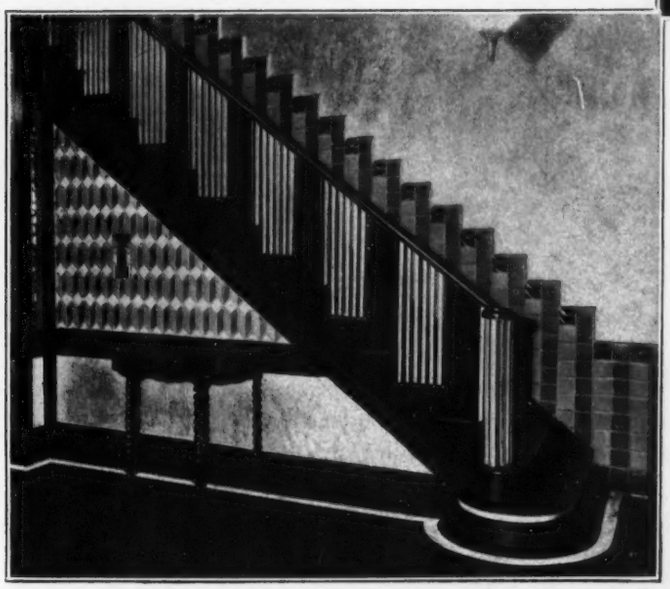

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The views above are of the showrooms of the J. A. Finn Co., New York, manufacturers and converters of cotton and silk goods. Wainscots are 4-1/4 inches square Mosaic Faience Tiles in green and French gray with black and silver decorations. Panels are special and regular size faience, green, blue and cream with silver, Chinese red and black decorations.

MOSAIC

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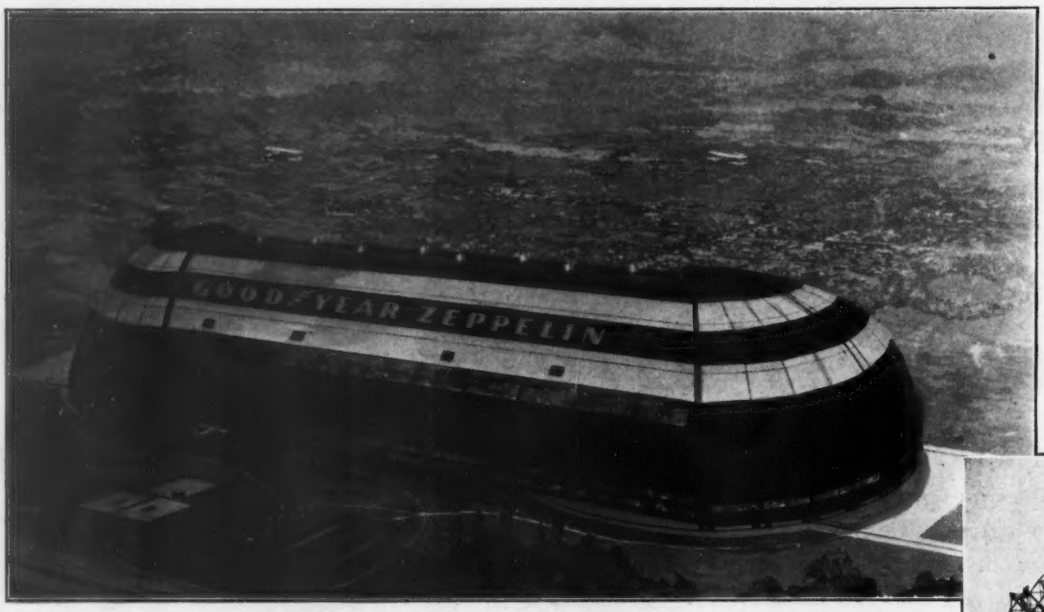
MOSAIC TILES

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Airship Factory
and Dock,
Akron, Ohio.

WILBUR WATSON
*and* ASSOCIATES
*Architects and*
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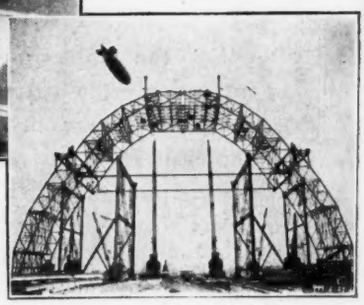

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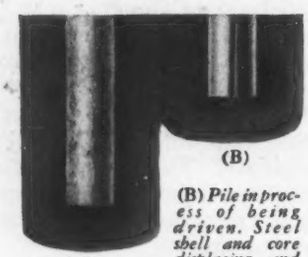
The drawings to the left show relative degrees of compression and demonstrate that the flow of the soil is away from the completed pile.

MacArthur Corporation will welcome the opportunity of presenting pertinent facts regarding their Method and their nation-wide accomplishments to any architect or engineer who is considering a project in which piles may be required.

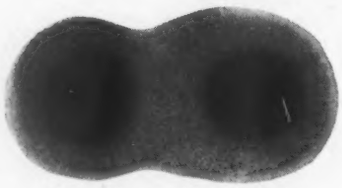
(A) *Completed pile, formed by compressing a workable, dry mix concrete under 7 tons pressure. This forces dense concrete into intimate contact with surrounding soil, giving maximum skin friction. Shading shows relative compression of soil due to driving and compressing.*



(B)

(A)

(B) *Pile in process of being driven. Steel shell and core displacing and compacting surrounding soil.*



*Soil displaced by pile being driven follows line of least resistance which is* AWAY *from the densely compacted soil surrounding the finished pile.*

*General Offices:* 19 West 44th Street, New York

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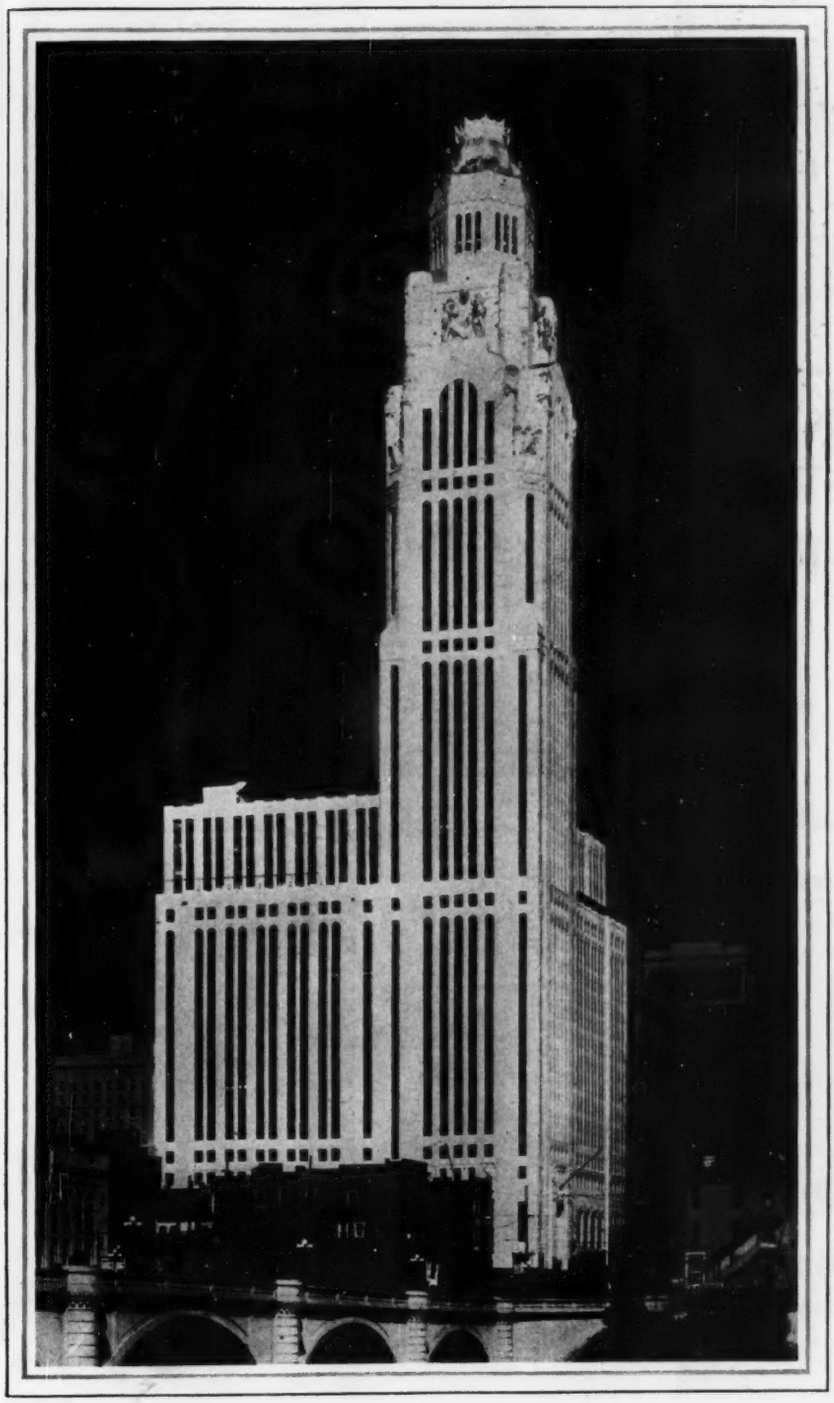

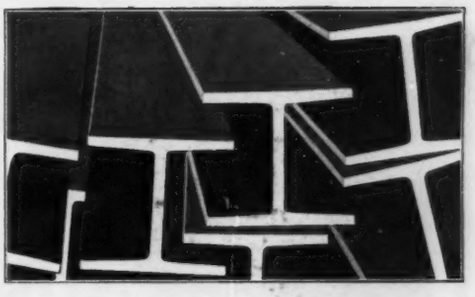

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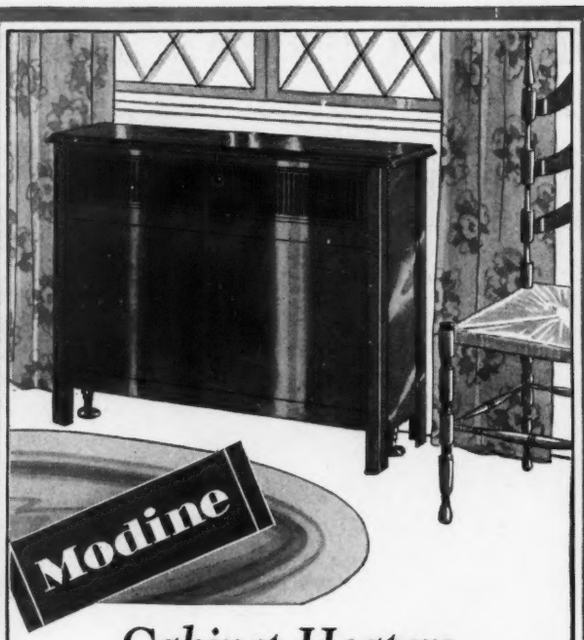


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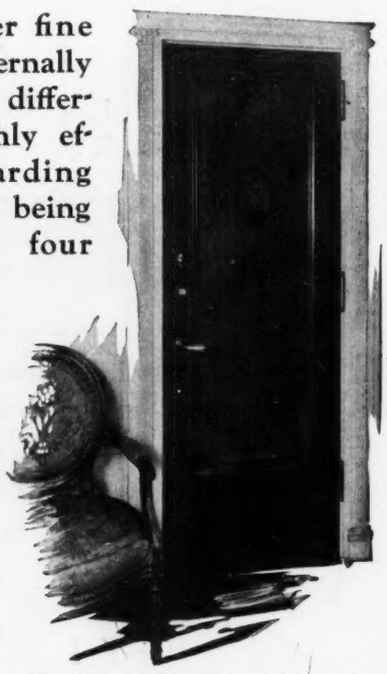

This door is in the private offices at the Blum Women's Apparel Store on Michigan Avenue, Chicago

*Write for Details*

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# ALL THE CHRISTMAS PLEASURES

"EVIDENTLY some one at Chalfonte-Haddon Hall had a home where they knew how to celebrate Christmas. Because, listen, darling, they waken you with carols! Every child in the place discovers a filled stocking on the door-knob. There are surprises for the grown-ups. Christmas trees all over the place—and you have your own table, the attention of your own interested waitress, a turkey all to yourselves.

"I'm as excited about spending another Christmas there as the children are. And so's Steve. We're crazy to see new Haddon Hall with its squash courts, gymnasium, and Sandy Cove (that's the playroom for children)—and sun-rooms, and promenade deck on the ocean.

"Now that it's possible to be comfortable and have fun at the same time—do you wonder that I am looking forward more to Christmas than I have for many a year? We are going to spend the whole week at Chalfonte-Haddon Hall."

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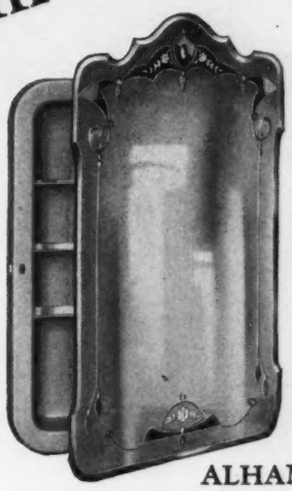
# A Decisive Factor in Bathroom Design



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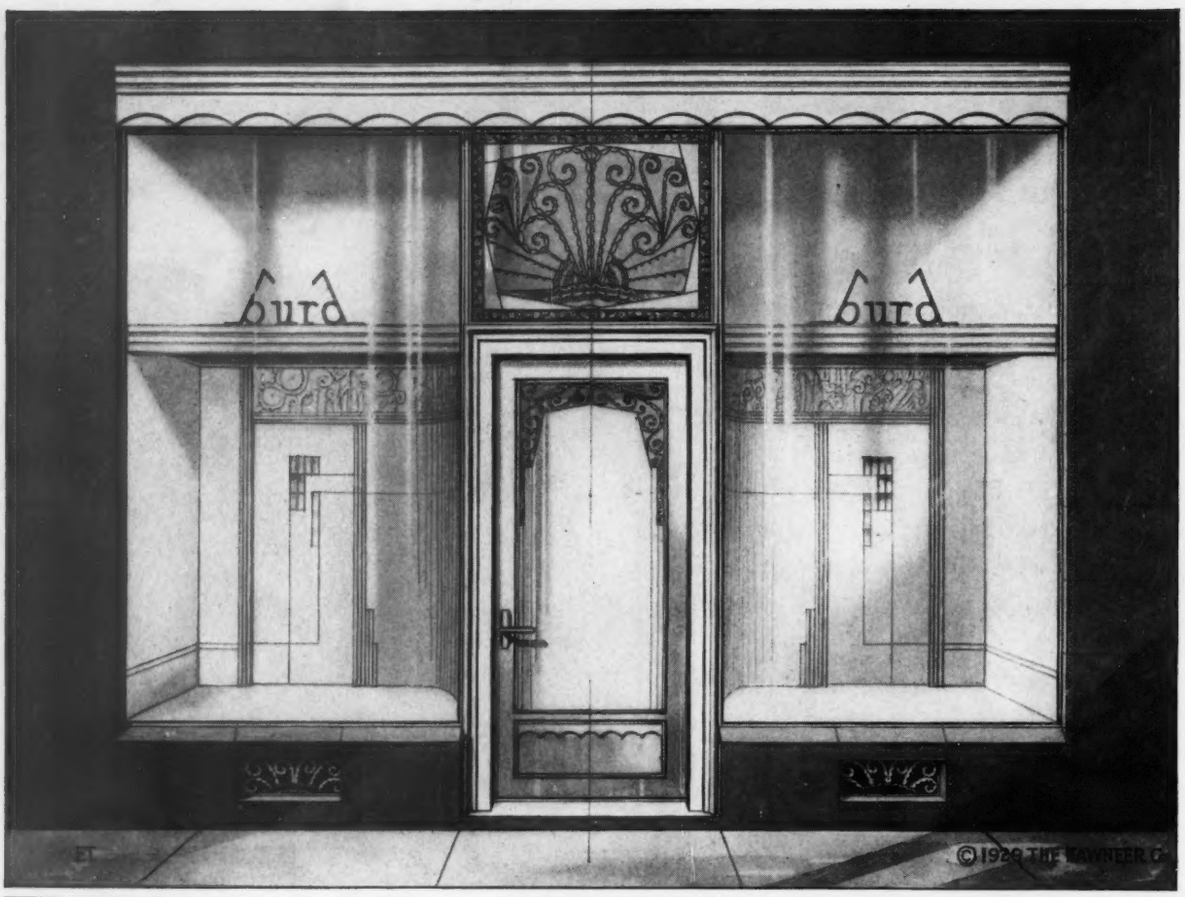


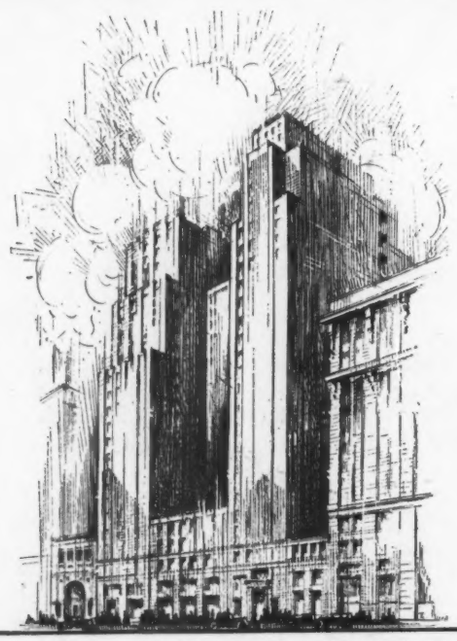

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*The Southwestern Bell Telephone Company Building at Dallas, Texas. Architects: Lang & Witchell*
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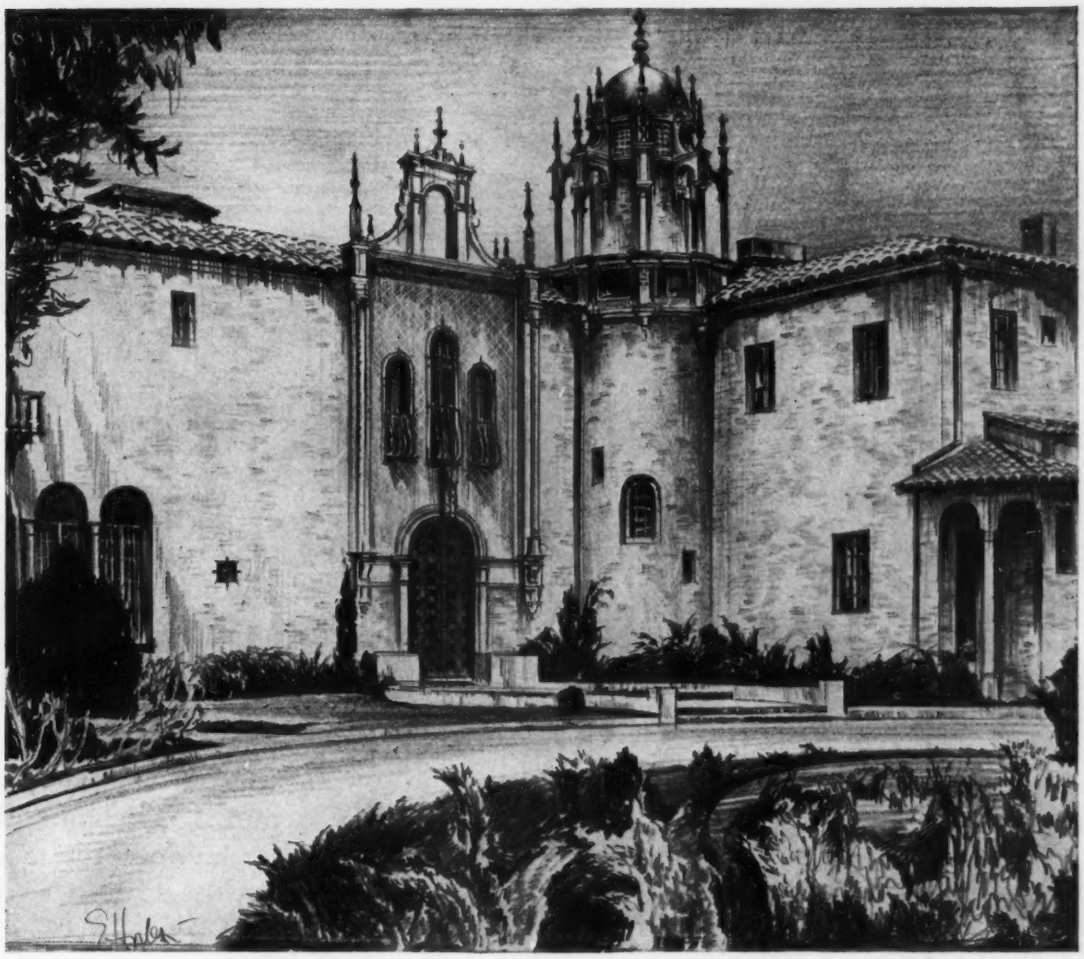

MI SUEÑO, *sixteenth century Spanish and Italian Renaissance home of S. W. King, Dallas, Texas. Allan Boyle, Architect. Walter Whitley, Builder. M. Jacques Carlu, critic, interior decorator, and painter of the fine mural in the dining room, a room praised as unrivalled in its conception and inspired by the Davanzati Palace of Florence.*

# The grandeur of Old Spain relives in this Estancia of today

"ONE of the finest Spanish Renaissance homes in America." Thus critics pay tribute to *Mi Sueño,* Dallas residence of S. W. King.

The beauty of its sixteenth century Spanish and Italian architecture is outlined against the Texas sky whose varying hues are reflected in the soft Mediterranean pink of its stucco exterior. Above the entrance, flanked by sculptured stone columns, the facade rises in blue and gold tiling. Stone flying buttresses surround a dome, capped in blue.

No effort was spared, no detail omitted, that might contribute to perfection. Architect Allan Boyle was sent to Spain where he studied for months refining his plans. Then to Fontainebleau where the criticism of the great M. Carlu, Directeur of the Ecole des Beaux Arts, was secured.

Equally painstaking care extended to the choice of materials. It is significant that Atlas White Portland Cement was selected for the stucco. Only with its pure white base could such exquisite shading of color have been obtained. In even the most modest cottage architects may achieve the charm, the dependability, and the fire-safeness of Atlas White stucco, so eloquently recommended by *Mi Sueño.*

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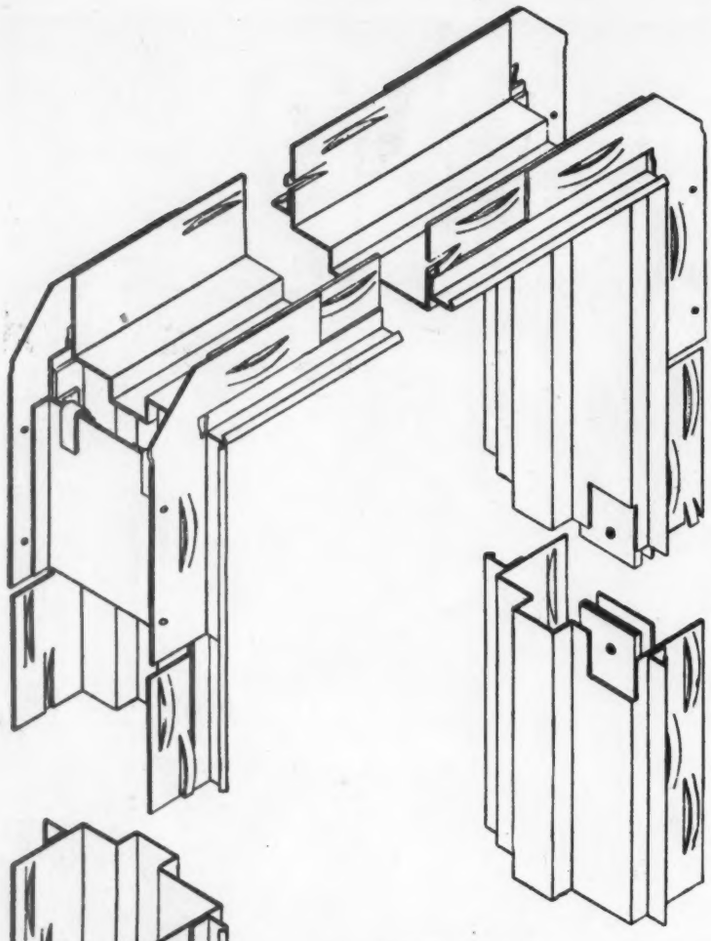

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1 The sides of the Kalman Steel Buck and Jamb overlap and closely engage the sides of the wall tile.

2 The anchors are similar to and function like Terra Cotta anchors and are visible where they attach to the Jamb until the wall is plastered, thus their use or omission can be easily verified.

3 The Jamb is supplied with elements which form definite grounds and metallic terminations for the plaster.

4 The sides are expanded into rows of loops which form a mechanical bond and reinforcement for the plaster over a wide area.

5 The plaster passes through the perforations, back of the loops to the sides of the tile.

6 The body of the Jamb is made of specially treated steel and the face is finished with Duco primer. The terminals are made of specially treated galvanized sheets and form a bond at the junction, with the plaster similar to that provided by Corner Bead.

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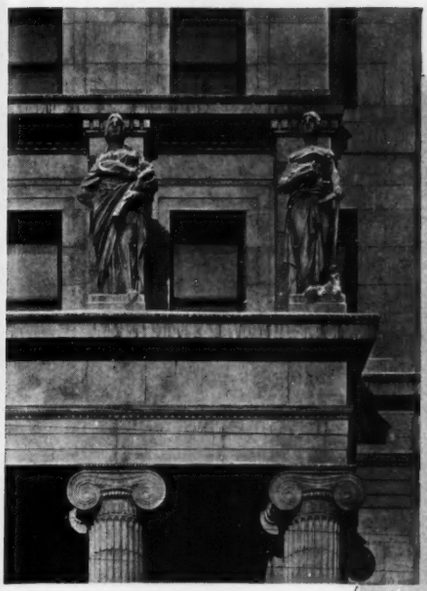
## 22 Canadian Winters



Detail of facade of the old building of The Royal Bank of Canada, Montreal. Now occupied by the Banque Provinciale du Canada; Howard Colton Stone, *Architect.*

This photograph, taken in the winter, shows a deposit of snow on the carved figures.

**The Royal Bank of Canada**
INCORPORATED 1869
*Head Office*
*Montreal,* August 13, 1929

S. M. Gross, Esq.,
C/o The May Company,
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PROBLEM No. 11 *Second Series*

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TRANSOM sash in the double window, over the main entrance of the Lee, Higginson & Co. Building, are operated from hand wheels, placed in a passageway above the window.

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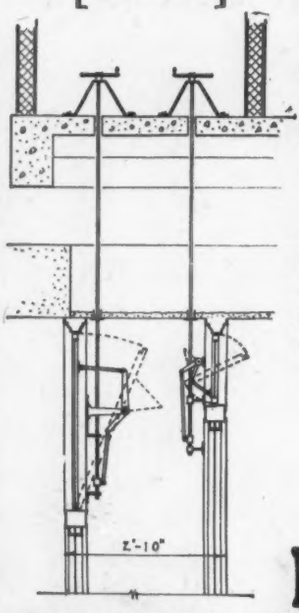


Section showing top part of window, and method of operation from above.

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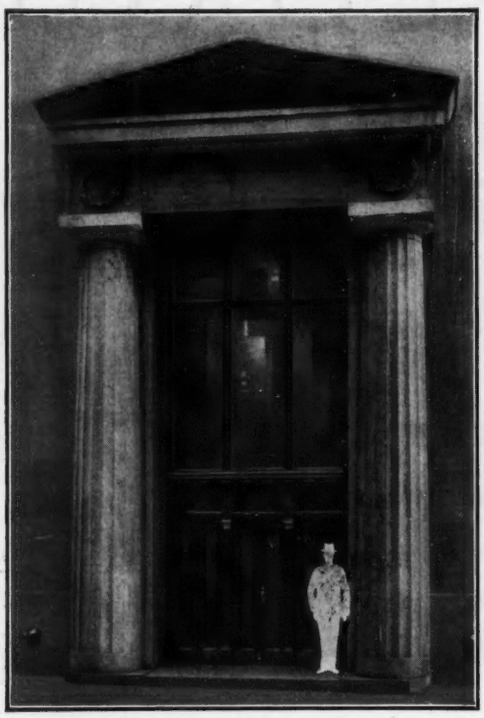

Main entrance of Lee, Higginson & Co. Building, 39 Broad St., New York City. Cross & Cross, Architects. Bronze sash by Reliance Bronze and Steel Co.

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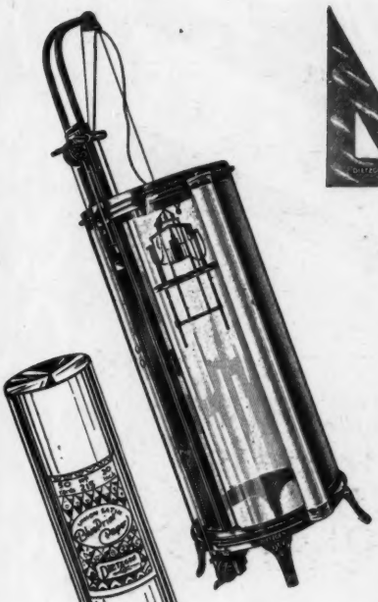

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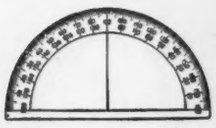

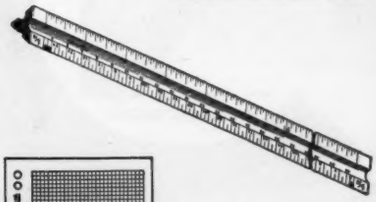

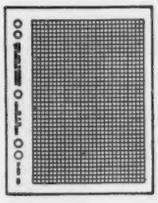

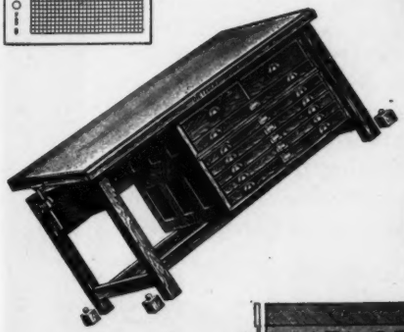

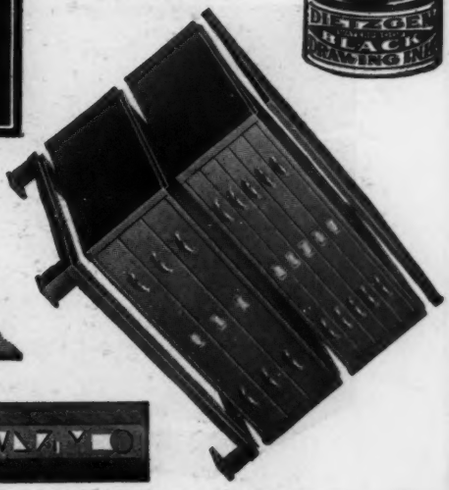

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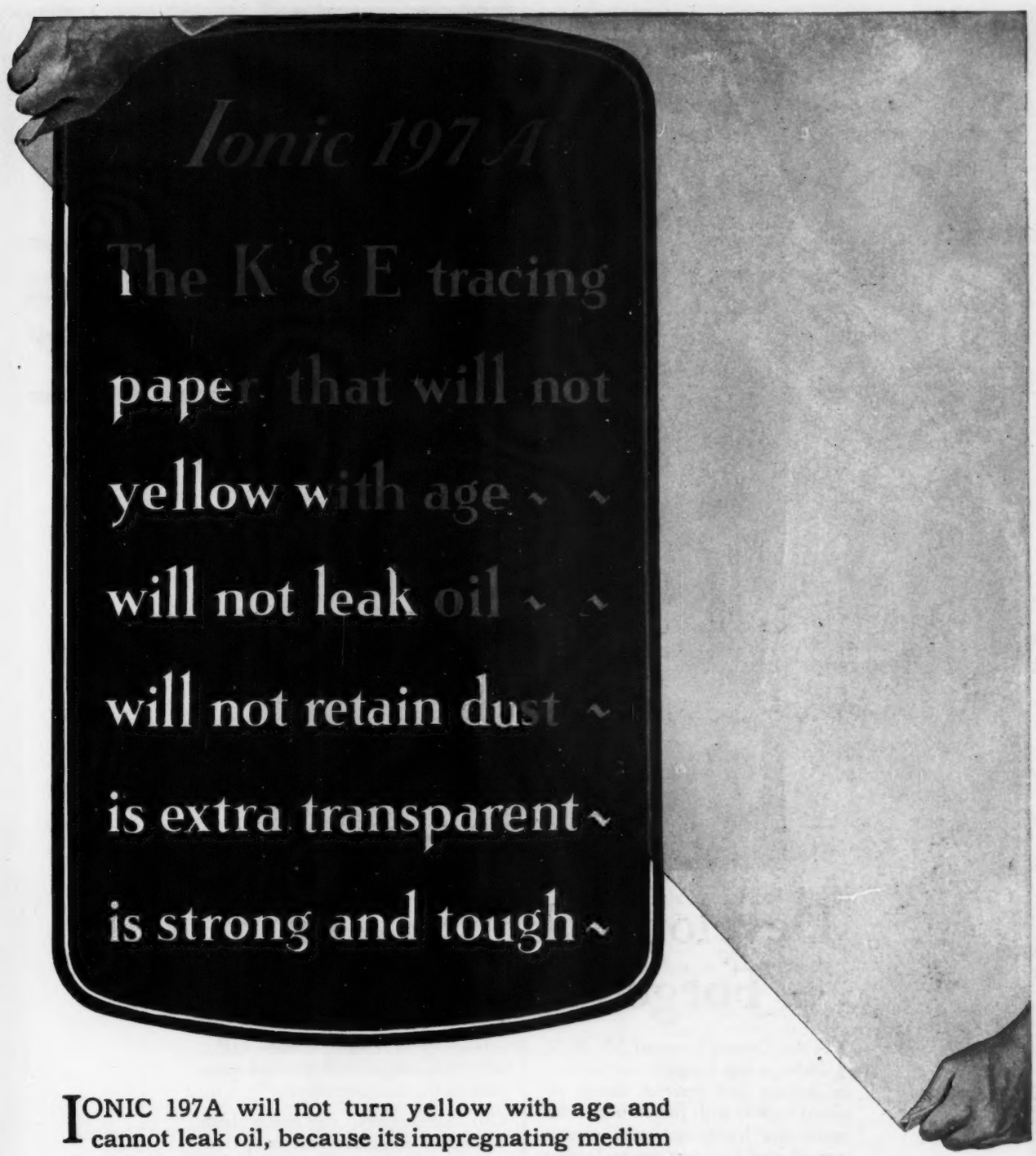


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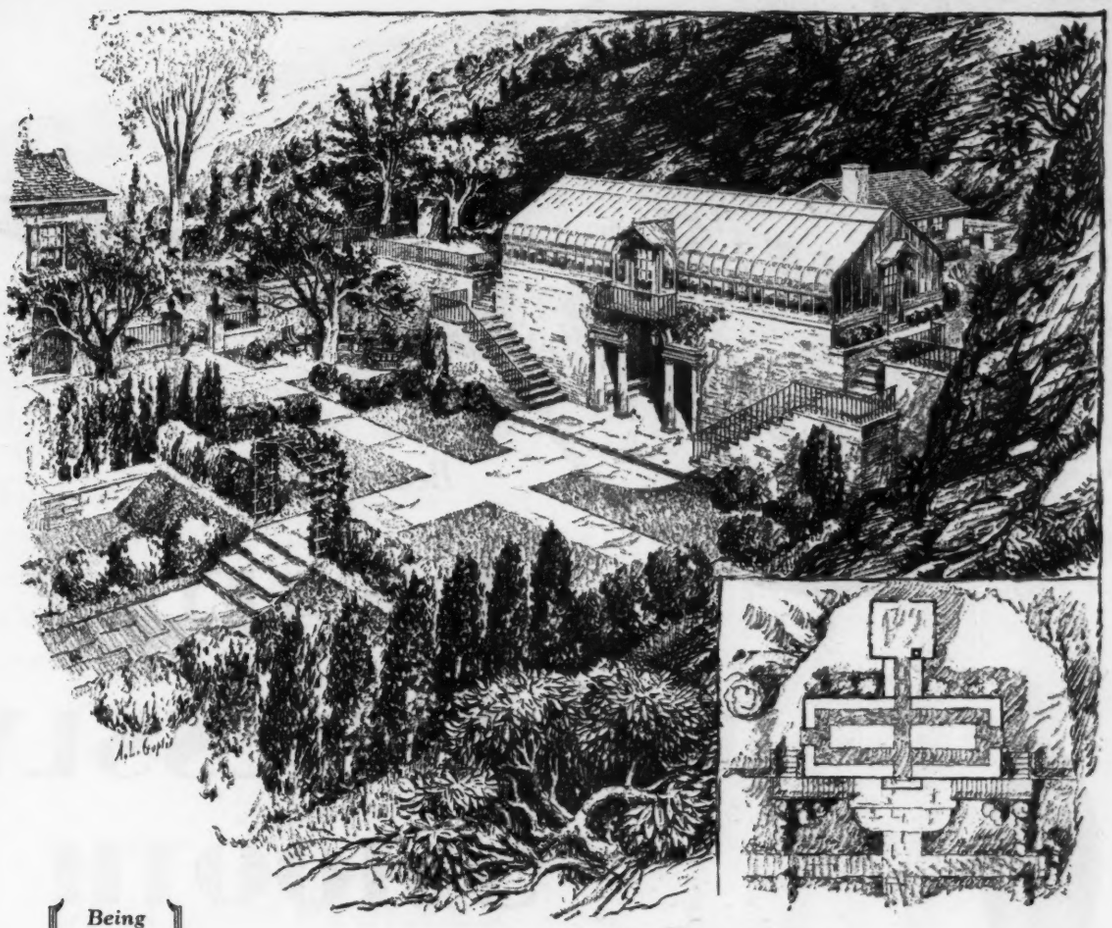

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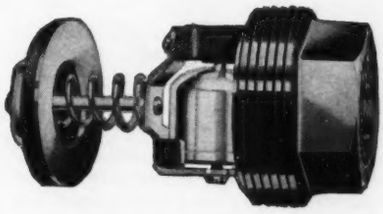

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**All application blanks should be received by Mr. H. P. Richmond, 12 West St., Boston Mass., on or before December 23rd.**

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Before me, a Notary Public in and for the State and county aforesaid, personally appeared W. V. Montgomery, who, having been duly sworn according to law, deposes and says that he is the Business Manager of the Corporation publishing PENCIL POINTS and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

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---

The associates and many friends in the architectural profession mourn the passing on October 23rd of Charles M. Higgins, founder and president of Charles M. Higgins & Co., Brooklyn, N. Y., manufacturers of drawing inks. Mr. Higgins, one of the founders of the Kings County Historical Society, was a leader in the business, civic and social life of Brooklyn.

---

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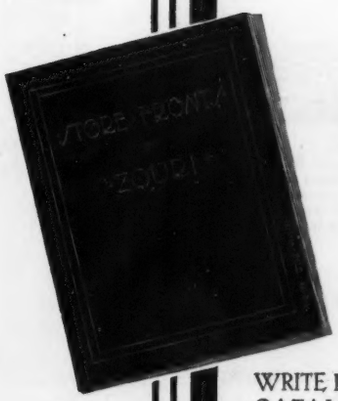

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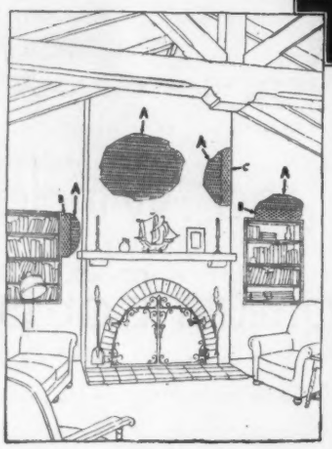

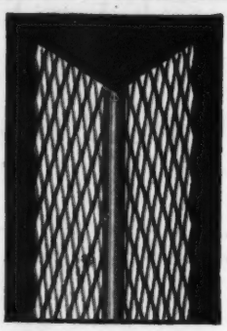

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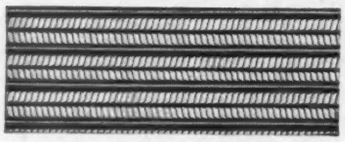

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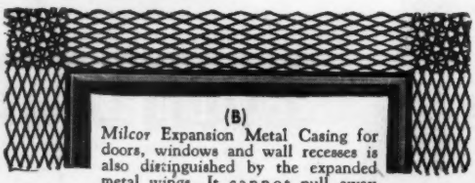

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